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TRADES AND SERVICES STUDENTS IN VOCATIONAL AND COMPOSITE HIGH SCHOOL SETTINGS

by

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled Trades and Services Students in Vocational and Composite High School Settings

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To my mother and father

ABSTRACT

The purpose of this study was to compare two delivery models for the education of high school age students having a history of academic difficulty. The models compared were a self-contained vocational high school and two composite high school settings.

The sample for the study consisted of all students enrolled in the second year of a three-year Trades and Services program. The total sample consisted of 426 students, with 272 enrolled in the vocational high school setting, and 154 enrolled in two different composite high school settings.

School records and standardized, school and researcher-designed instruments were utilized to determine reading, vocabulary, and mathematics competence; student self-concept; verbal and non-verbal intelligence; and general characteristics and attitudes of students and parents with regard to school and to the Trades and Services program.

Results arising from this study indicated greater similarities between students attending the two composite settings than between students attending the vocational and composite settings. Significant differences among students attending the three schools were found in the following: occupation of father, reason for enrollment in the program, and future educational or vocational plans.

Students attending the vocational school were found to have lower average verbal intelligence scores, and proportionately to be less frequently employed while attending school. Students enrolled in the vocational school scored significantly higher on the reading test than did students enrolled in the composite high schools. No significant difference was found on vocabulary or mathematics scores.

The two groups made similar scores on scales of general and academic self-concept, and student attitudes were found to be similar. Counseling services were significantly more highly regarded by students attending the vocational high school setting.

Parents of students enrolled in the vocational school were generally more positive about the Trades and Services program than were parents of students enrolled in the composite school settings. However, parents, and students enrolled in both the self-contained vocational and composite high school settings indicated that the type of organizational structure under which the student was then being served was the preferable one.

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CHAPTER I

THE PROBLEM AND ITS SIGNIFICANCE

Introduction

Throughout Canada and the United States, in response to demands from parents, special interest groups and the public at large, local school jurisdictions have recently provided increased alternative school programs for students with particular educational needs and interests. with the responsibility for the provision of publicly funded educational programs for all children of mandatory school age now clearly seen as an educational responsibility, and local school systems increasingly being held responsible for providing appropriate educational programs to all children within their jurisdictions, it may be expected that in most areas of Canada, the number and diversity of educational programs will continue to grow.

It is important for those who influence educational policy to know whether students with similar educational needs are more appropriately served in school settings catering only to students with similar needs and interests, or whether such students are better served in schools providing educational programs to a more heterogeneous population.

During the 1950's, at the time when Canadian schools could not accommodate the burgeoning student population resulting from the wartime baby boom, special programs were frequently accommodated in settings and schools separate from other educational programs. This practice was justified on the basis of being in the best educational and social interests of students with learning difficulties. Now in the late 1970's, nearly all schools and school system across Canada and the United States are experiencing dramatic drops in their student enrollments. There has been a coincidental resurgence of the philosophy of integration wnich encourages the return of special education students to schools providing regular programs, and frequently back to placement in regular classes, as well.

A proliferation of conflicting educational opinion currently exists which expounds the superiority of either special segregated or regular class settings for students with specialized educational interests and needs. However, empirical data dealing with student achievement, self-concept, or student or parental preference regarding placement of students requiring special programs are presently unavailable.

Arguments presented in favor of segregated special school settings for students enrolled in special programs frequently include the following:

1. School can be more secure and comfortable for less successful students in a setting where, at least temporarily, they need not worry about academic, social, or other competition from highly successful students.

2. Students in a special program setting feel less different when the total program and setting is designed to accommodate their needs.

3. All staff in special settings are employed to work specifically with students in the special program. Therefore, such staff members should be expected to be more understanding of, interested in, and prepared and motivated to work with exceptional students.

4. Students in a minority group have more opportunity and incentive for assuming responsibility and leadership for school activities in special settings. These students have less opportunity for leadership in integrated settings where competition for leadership positions is more intense.

5. Special settings are generally smaller and more personalized, providing the benefits of closer staff-student and staff-parent relationships.

6. In special settings students more readily feel an identity with their school and thus develop a loyalty and closer affinity to the school, staff, and to other students.

7. Students entering a special school setting interpret their placement as a symbolic academic

"last chance" and consequently improve their attitudes toward school and learning.

Arguments presented in favor of regular or integrated school settings for students enrolled in special programs frequently include the following:

1. As students are daily competing socially and will compete with others for employment in the future, it is unrealistic and unfair to all students to remove the less successful from the educational mainstream.

2. Special school settings have an unfavorable connotation for some parents and students. Such students and parents may feel uncomfortable about admitting to others that the student attends a special school. A regular school setting allows students a greater degree of anonymity.

3. Successful students have a positive modelling influence upon less successful students. The modelling influence of highly successful students in unavailable to other students in a special school setting.

4. In regular school settings, students enrolled in special programs can more readily take part in regular classes when warranted, and may participate in school sports, extracurricular activities, clubs, or artistic endeavors with students from a wide variety of other programs.

5. It is beneficial for all students to learn that others have differing strengths and weaknesses, and that

they will be required to interact witn a wide variety of people throughout life. With a greater range of programs in schools, tolerance and understanding of persons more and less talented than they can be developed in a natural way in all students.

6. Social interaction among students in regular and special programs is more readily facilitated in regular schools accommodating a variety of programs.

7. Students can more often attend school closer to home with their neighborhood friends when special programs are offered in regular school settings.

8. Transportation time is decreased and transportation difficulties are minimized when special programs are provided in regular schools.

9. Teachers may more readily have the opportunity to teach a variety of classes and student levels in regular schools, and thus become less discouraged than if they are required to teach classes only for students with learning difficulties.

Operational Definitions

The following definitions have been adopted for use in this study:

1. Drop-Outs. Those students who leave school as soon as they are permitted to do so by law, or those who enter high school but do not remain until completion of their program.

2. Composite High School. A high school setting which provides a variety of educational programs for students exhibiting a wide range of interests and levels of ability.

3. Vocational School. A high school setting serving only students enrolled in a vocational program.

4. Handicapped Student. Any student, excepting the gifted, who deviates from the average mentally, physically, or socially to the extent that the student requires modification to regular school practices, in order to develop to his or her maximum capability.

5. Integration. Any form of administrative arrangement whereby handicapped students are educated in the same classes or schools along with non-handicapped students.

6. Mainstreaming. An administrative arrangement for the education of students with special needs, whereby handicapped students are educated in same classroom with non-handicapped students.

7. Trades and Services Program. An educational program offered by the Edmonton Public School Board for students of high school age, who, for a variety of reasons, are unable to cope with the academic program offered as part of the regular high school.

8. Trades and Services Academic Courses. Those courses in the Trades and Services program that concentrate on basic academic skills or the remediation of these skills.

9. Trades and Services Vocational Courses. Those courses in the Trades and Services program that orient the student toward a future occupation.

10. Trades and Services Option Courses. Those courses in the Trades and Services Program which serve to round out the student's total educational program.

11. Sample. For the purpose of this study, all second year Trades and Services students were used as a sample of the total Trades and Services student population. The following assumptions were made: (a) that the sample represents all Trades and Services students, and (b) that the schools used in the study are representative of segregated and composite school setting in general.

Background to the Study

The Edmonton Public School Board has traditionally demonstrated a high regard for students within its jurisdiction. From a relatively early date, the Edmonton Public School Board has implemented programs for handicapped students whose needs could not be met in the regular classroom setting, or for those students who, due to a variety of learning disabilities, motivational or social problems, demonstrated an inability to succeed in regular classes.

As early as 1960, the Edmonton Public School Board developed a program called Pre-Employment, designed to serve students who were not academically inclined, and who were expected to drop out of school immediately after

reaching legal school leaving age. In 1973 the name of the Pre-Employment program was changed to Trades and Services. The Trades and Services program was designed for students fifteen years of age or older who have exhibited consistent academic difficulties and who are not expected to be successful in regular high school programs. Such students almost invariably lack confidence, have a poor self-concept, and exhibit difficulties in social relationships.

During the inception of the Pre-Employment program, it was believed that the most appropriate setting for the program would be a school building separate from other high school students and classes. The rationale behind this decision was that the Pre-Employment students would feel less pressure in a separate environment, enabling them to more readily regain self-confidence and upgrade academic skills. The program was designed to teach basic reading, mathematics and other academic subjects, while at the same time, through vocational classes and counseling, prepare students for employment immediately upon graduation from the program. It was further believed that in a separate setting, staff cohesion would lead to a better program for the students. The W. P. Wagner Vocational High School was eventually built and opened in 1968 to accommodate students enrolled in the Pre-Employment (Trades and Services) program.

As the popularity of the Trades and Services program increased, the number of students requesting the program

soon caused the space in W. P. Wagner School to become insufficient. The program was then expanded to two other settings--Jasper Place Composite High School and Victoria Composite High School. At the time it was suggested that the Trades and Services program did not require a separate school setting to enable students to receive the obvious benefits of the program. The small classes, program emphasis on basic academics, vocational preparation and counseling, and concerned staff working intensively on behalf of a group of students with identified special needs, could be provided in a regular composite high school as well as in a separate vocational schooling setting. Further benefits in a composite school setting would be that the Trades and Services students would not be required to travel long distances to a central school; students could attend a local school with neighborhood peers; students could participate in recreational, sports, and other co-curricular activities with regular class students; and students could more easily move into regular classes or back into the regular program if warranted.

Plans to build an additional vocational high school, the proposed T. D. Baker Vocational High School, were changed in favor of providing future Trades and Services programs in the W. P. Wagner Vocational High School, and in composite high school settings. Strong support was expressed for both points of view on the relative merits of segregated versus composite high school settings for Trades and Services students, but the objective evidence

demonstrating the superiority of either mode of delivery of the program was not available.

Purpose of Study

In order to plan to meet future program needs of students enrolled in special programs, it is important to determine from the consumers of educational services and programs, the students and their parents, characteristics of programs which best suit their needs, as well as the mode of program delivery preferred by them. The aim was to determine whether similar results would be obtained on tests of academic achievement, self-concept scales, and on questions relating to attitudes toward school, from Trades and Services students enrolled in vocational and composite high school settings. Attitudes of parents toward the Trades and Services program, and the preferred setting of the Trades and Services program as indicated by parents and students from both types of settings were also determined.

Results of this study were intended to provide objective and self-report data to contribute additional knowledge and understanding to the widely debated question of segregated versus integrated school settings for students with special educational needs. This study was meant to provide information of practical value to school jurisdictions to assist them in making responsible decisions in providing effective and acceptable programs to all students in their charge.

Framework

Students enrolled in the Trades and Services program have a history of academic difficulties and have shown particular weaknesses in reading and mathematical skills. Such students have traditionally not enrolled in post-secondary educational institutions after leaving school, but have accepted employment immediately upon leaving the Trades and Services program. As this is the last formal educational program most of these students attend, it is important that the basic reading, vocabulary, and mathematics skills of Trades and Services students are upgraded to as high a level as possible through this program.

As Trades and Services students have experienced severe academic difficulties in the past, it might be assumed that, as a group, their sense of self-concept and self-worth is lower than for more successful students of the same age. For this reason, one of the aims of the Trades and Services program has been to assist students to develop a healthy self-concept and self-worth, in order to assist them in their future social, academic, and employment relationships and endeavors.

The population chosen for this study consisted of all students enrolled in the second year of a three year Trades and Services program, an Edmonton Public School Board sponsored program designed for high school age students who have exhibited a history of below average

academic performance in school, and who have been identified as generally being in the low average to average range of mental ability. Many of these students have encountered difficulties in their personal relationships and home lives. As such students were not expected to meet with success in regular high school programs, it was predicted that if they were not provided with a specialized program, such as Trades and Services, they would leave school before acquiring vocational skills or completing requirements for graduation from high school.

The Problem

Students in the study were assessed, or information was obtained from the students, parents, or schools to determine the following:

a. Level of reading competence;
b. Level of vocabulary competence;
c. Level of mathematics competence;
d. Level of general self-concept;
e. Level of ability self-concept;
f. Level of intelligence-verbal,
-nonverbal;
g. Occupational category of both parents;
h. Preference of students regarding type of school placement of Trades and Services program;
i. Preference of parents regarding type of school placement of Trades and Services program;

j. Student and parent attitudes relating to school and to the Trades and Services program.

The problem of this study was to determine whether there were any significant differences relating to these variables between students attending the Trades and Services program in a vocational high school setting (W. P. Wagner Vocational High School), or in composite high school settings (Jasper Place Composite High School and Victoria Composite High School).

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

Until the 1950's, the fact that a large percentage of Canadian public school students exhibiting academic difficulties dropped out of school before high school graduation to take unskilled laboring or agricultural jobs was an accepted part of the educational and economic system in Canada (Black, MacArthur, & Paterson, 1961). It might be presumed that some such students were even encouraged by parents and teachers to leave school once they were past the age of compulsory attendance. Traditionally, high school programs in Western Canada were largely academic rather than practical in nature, and were generally meant to lead to university studies for their graduates. Even vocational and business courses were geared to well motivated students of at least average ability. Students who left school before high school graduation generally had little difficulty in obtaining employment and many went on to become successful in a trade, agriculture, or service occupation.

As the economic and employment situation changed, the need for more formal education for prospective employees was recognized, and even less academically

able students were strongly encouraged to graduate from high school, to ensure entrance to a greater variety of post secondary educational institutions, or increased possibility for more desirable employment. School systems were faced with the challenge of providing new programs which would keep students in school for as long as reasonably possible. The consequences of premature school leaving had become more serious to students and to society as a whole. With advancements in technology and science, and the increasing urbanization of the Canadian social and economic system, jobs that traditionally had been filled by school drop outs were rapidly disappearing. As well, potential employees increasingly held higher academic qualifications, resulting in employers filling even positions requiring workers with no specialized skills with more highly qualified personnel.

In response to this increasing need for students not bound for university to also receive an appropriate high school education, school systems diversified their programs to serve the educational needs of a greater variety of students. Even with the introduction of more vocational and business courses in an increasing number of high schools, the number of students continuing to drop out of school before graduation or completion of specialized training seriously concerned educators.

Factors Associated with Early School Leaving

During the 1950's there was a general concern regarding the high rate of student drop-outs from Alberta secondary schools. To help provide background information on this phenomenon, in 1958, the Royal Commission on Education in Alberta authorized a series of studies by Black, MacArthur, and Paterson concerning the characteristics of students withdrawing from Alberta secondary schools, and the means of predicting success of pupils in those schools.

A number of factors were found to be associated with early school leaving of students. In most instances several factors are interrelated, seldom are they found alone.

1. Age. The Canadian Research Committee on Practical Education (1951) found that one of the two most significant factors distinguishing between graduates and drop-outs was educational delay or repetition of grades due either to illness or failure, particularly if the delay was more than one year. In each grade, drop-outs were significantly older than the average age of pupils. For both sexes, drop-outs tended to have repeated more grades.

2. Sex. In Alberta, boys were found to drop out of school earlier than girls. The Canadian Research Committee on Practical Education (1950) found that in their Alberta sample, drop-outs accounted for 38 per cent

of early school leaving for boys, but only 25 per cent of early school leaving for girls.

In a 1958 study of 500 Grade Ten students attending language classes in an Edmonton composite high school, Chapman found that those pupils who were achieving most poorly in relation to their intellectual ability were mainly boys.

With respect to further training after school leaving, in 1958 it was found that Alberta girls surpassed Alberta boys. Girls were being retained in school to a greater extent than were boys, with more girls than boys entering post-secondary educational programs (Black, MacArthur, & Paterson, 1961).

3. Achievement. In 1953, Evans made a study of the subsequent careers of Alberta students who had attained differing achievement levels in their Grade Nine departmental examinations. Results showed that only two per cent of Grade Nine "C" students graduated from Grade Twelve, on the other hand, 67 per cent of the Grade Nine "A" students graduated from Grade Twelve. These results would tend to indicate that high achievement is associated with retention in school and low achievement with school drop-outs.

4. Mental Ability. According to Black, MacArthur, and Paterson (1961), in 1950, the Byrne study of one thousand Grade Nine students indicated that the greater proportion of students dropping out of Alberta secondary

schools were students in the lower ranges of intellectual ability. However, it was also found that many students in the higher ranges of intellectual ability were also not being retained in school. More specifically, of those students of Intelligence Quotients of 115 or more, as measured in Grade Nine (Henmon-Nelson Form A), only 75 per cent entered Grade Twelve, and only 32 per cent completed matriculation (Black, MacArthur, & Paterson, 1961).

The Canadian Research Committee on Practical Education (1951) found a similar relationship between ability and school retention for their total Canadian sample, and list general ability which places a student in the lowest fifth of the class as the second major factor associated with school drop-out.

Other studies reviewed for the Royal Commission on Education in Alberta study substantiated this association between mental ability and retention in school, together with extensive drop-out of able students.

5. Socio-Economic Factors. Almost all studies on drop-outs indicate that the socio-economic status of the family is directly related to school retention, although the degree to which this variable may be operating independently of other variables is not usually clear. Chapman (1958) found that high school pupils who achieved well in relation to their ability tended to come from families where the father owned his own business or was

engaged in professional work. The Canadian Research Committee on Practical Education (1950) found both economic status as rated by the teacher and occupation of the father to be strongly related to retention in school.

6. Other Factors. The literature suggests that pupils who are enrolled in vocational programs tend to drop out sooner than other pupils, and that pupils who participate in extra-curricular activities tend to be retained longer. The extent of the relationship between retention and parent-teacher attitudes, size of school, and part-time employment is not clear.

Of the reasons given by both teachers and pupils for drop out from secondary school, reasons relating to the school were indicated most often, with economic reasons coming next. Of the reasons given by capable students for not attending university, plans for some other form of further education were mentioned most frequently, lack of money was the second most frequent reason given (Black, MacArthur, & Paterson, 1961).

In the main, North American society has continued to promote the work ethic. For this reason, there has remained a general belief that it is the responsibility of society to ensure that each individual is provided with the opportunity to develop academic and vocational skills according to that person's ability and interests (Mack, 1976).

The problem of providing appropriate school programs for students who do not fit into the mainstream of education has confronted educators for some time. As early as 1925 Washburn wrote:

> It has become palpably absurd to expect to achieve uniform assignments made to a class of widely differing individuals. Throughout the educational world there has therefore awakened a desire to find some way of adapting schools to the differing individuals who attend them. (p. x)

About forty years later, Bloom (1965) stated:

> What is needed to solve our current as well as future crisis in education is a system of compensatory education which can prevent or overcome earlier deficiencies in the development of each individual. Essentially, what this involves is the writing and filling of educational prescriptions for groups of children which will enable them to realize their fullest development. (p. 6)

Although positive steps have been taken in attempting to provide a more adequate educational provision for pupils with special needs, further work and clarification lies ahead in the area of education for students who do not benefit from regular programs in our schools.

Characteristics of Students Exhibiting Academic Difficulties

With increased research regarding the psychology, learning patterns, and developmental stages of atypical children now readily available, results indicate that the social and developmental characteristics and needs of such children are more similar than dissimilar to that of

normal children. Johnson (1964) suggested that slow learners have the same basic wants, needs, and desires as all children, and like all persons, they have a need for feeling that they belong, that they are intrinsically of value, and that they are accepted as part of a group.

Karnes (1970) indicated that slow learners tend to be less socially and emotionally mature than their brighter peers, with 50 per cent having poor emotional adjustment, and many being discipline problems. Wrenn, Ferguson, and Kennedy (1936) found support for their thesis that slow learners manifest feelings of inferiority that are compensated for by exhibiting greater social aggressiveness. Barbe (1964), Dunn (1959), Havighurst (1958), and Witty (1961) believed that slow learners become frustrated when they feel alienated from the total group in their inability to perform the same tasks as the rest of the group. They were shown to react to this frustration through aggressive behavior. Johnson (1964) accounted for aggressiveness that leads to discipline problems by indicating that little or no attempt is made to provide a curriculum designed to meet the particular needs of the students, or to adapt the methods of instruction in relation to their intellectual ability.

Witty (1961) and Abraham (1961) suggested that slow learners experiencing a succession of failures develop compensatory mechanisms of agressiveness, withdrawal, attention-getting, indifference, or nonconformity.

In reviewing the literature on the slow learner, Harris and Scriven (1969) found a theme of the self-esteem of the slow learner being eroded by repeated failure, frustration, and rejection.

In summarizing the characteristics of slow learners, Johnson (1964) stated:

> Evidence strongly indicates that where programs have been instituted, designed specifically to meet the needs of slow learners, most anti-social behavior is either materially reduced in intensity or vanishes altogether. Truant and delinquent behavior and attitudes of disinterest and dislike for school and learning activities are not inherent in the slow learner, although they are often considered to be of an intrinsic nature. They are, instead, a reflection of their reactions toward continuous frustration, failure, and subjection to meaningless activities--a perfectly normal reaction. (pp. 56-57)

The approach in meeting the educational needs of pupils with academic difficulties must focus on providing students with success experiences which, in turn, build their self-confidence and self-esteem. Basic academic skills, occupational orientation, training in general vocational skills, development of desirable social behavior, and the acceptance of self and others are of prime importance in educational programs designed to assist students develop into participating and respected members of their communities.

Studies Related to Self-Concept

The self develops in childhood when that which is inherent in the child's make-up is combined with the unfolding of life's experiences. The self which evolves is the totality of a person'a experiences in his unique existence. It is a composite of the person's thoughts and feelings, his ideas of what he is, what he has become, and what he might become.

An individual's self-concept consists of the persisting way the person sees himself in a variety of life situations. The individual's perceptions in varied situations along with the people, ideas, and values viewed as characteristic of the self, constitute the self-concept of that person. The self-concept emerges through the internalization of perceived responses of significant otherw toward the individual. People with whom the child interacts; family, teachers, and peers, exert a pervasive influence on the formation and change of the self-concept (Perkins, 1958).

A concern related to the provision of special programs to serve students with special needs is that of the labelling of students and the negative effects of that process on the student's self-concept. Students identified as slow learners, culturally deprived, or mentally handicapped have often been treated as undesirable by parents, teachers, peers and the community

at large. Young people exhibiting academic difficulties are frequently more concerned about the reaction of other students toward them than they are about their learning difficulties (Mack, 1976).

Stereotyping with regard to a student's school performance may begin early in a child's school career. Students who experience failure and frustration in school begin to feel that there are so many counts against them that there is no use in trying further, thus they tend to establish a pattern of failure. Because of this acquired defeatist attitude, new obstacles appear for "nonacademic" students. Many become highly anxious, perform far below their actual potential, and remain unaware of various educational or employment opportunities for which they might strive. Their continuing low self-esteem prevents them from seeing themselves as being able to perform to the level to which they could reasonably aspire. Frequently they develop difficulties in relating to both adults and peers.

A vast amount of literature related to the ideas of the self and self-concept indicates that mental health and personal adjustment are influenced by the individual's feelings of personal adequacy. The individual must maintain a healthy orientation and think of himself in positive ways if he is to form a positive self-concept (Hamachek, 1972).

The relationship between self-concept and academic achievement has been a target of considerable research. The relationship between self-concept and academic achievement for a group of grade five students was investigated by Nichols (1977). The Piers-Harris Children's Self-Concept Scale and the Florida Key were used to measure self-concept and the California Achievement Test (Form A) was utilized as a measure of comparison of academic achievement in language arts, reading, and mathematics. The findings coming from this study indicated that a significant correlation existed between academic achievement and self-concept of these students.

Coopersmith (1959) studied the relationship between the Iowa Achievement Test and the Coopersmith Self-Esteem Inventory with grade five and six students. He found correlations that were positive and significant between self-esteem and school achievement. The relationship between school achievement as measured by grade-point average, and self-concept was studied by Brookover, Thomas, and Paterson (1964) using a sample of seventh grade students. The investigators reported a significant correlation between self-concept and grade-point average. They further suggested that positive evaluation of the child by others important to the child is sufficient to lead to enhancement of self and thus lead to increased achievement.

Hamachek (1972) suggested that students who feel adequate function more effectively academically. He indicated that student failure in basic school subjects may be due in part to unhealthy perceptions of the self and the world. He further indicated that many students have difficulty in school, not because of low intelligence or poor eyesight or hearing, but because they have learned to consider themselves unable to do academic work.

Bresee (1957), in his study of achievers and underachievers, found that underachievers were more hostile toward self and more extra-punitive than achievers. Research findings (Corlis, 1953; Mackenzie, 1964) also indicated that low achieving youngsters generally possess more hostility than their achieving peers. A number of researchers have found academic self-concept to be more highly related to achievement than is general self-concept (Bloom, 1976; Brookover, Erickson, & Joiner, 1967; Brookover, LaPere, Manachek, Thomas, & Erickson, 1965; Prendergast & Binder, 1975).

Other reviewers and researchers have also noted that children's feelings and attitudes about themselves are closely related to learning and school performance (Aspy & Buhler, 1975; Bloom, 1976; Caplin, 1969; Cobb, Chissom, & Davis, 1975; Ligon, Hester, Baenen & Matuszek, 1977). There is also considerable evidence to suggest a relationship between self-concept and academic achievement (Fink, 1962; Fredman, 1976; Seay, 1960; Zeitz, 1975)

Several authors have reported lower self-concepts among underachievers (Bloom, 1976; Caplin, 1969; Primavera, Simon, & Primavera, 1974; Purkey, 1970; Williams & Cole, 1968).

Wylie (1961) reviewed over 400 pre-1961 studies of self-concept while Boshier (1970) updated Wylie's bibliography to include 500 post and crucial pre-1961 titles dealing with self-attitude. Wells and Marwell (1976) suggest that the sheer volume of writings in this area is indicative of its perceived utility in the theoretical understanding of human behaviors.

Volume of research does not necessarily imply quality and studies in this area have been subject to criticism for a number of years. Most of this criticism has centered around the lack of standardization and validation of instruments. Crowne and Stephens (1961) stated that there was a "relative absence of systematic efforts in test development, standardization, and validation in this area" (p. 119). Wylie (1961) concurred with this view when she concluded that information on the reliability and validity of "most" self-concept instruments was quite inadequate. Wylie (1974) recently concluded that inadequate instrumentation and faulty research design has reduced the contribution of most self-concept studies to a highly questionable status. The main reason for these problems, according to Wylie, is that most of the commonly used self-concept

instruments measure some aspect of a global self-regard, and as such, tend to cover too many personality traits to allow for meaningful predictions of human behavior. Thus, Wylie (1974) proposes that "more molecular and carefully conceptualized constructs might have more scientific utility" (p. 325).

Although a number of reviewers mentioned earlier in this chapter have noted that children's feelings and attitudes about themselves are closely related to learning and performance in school, ambiguous and contradictory results render the overall findings inconclusive (Betteschen, Winne, & Wieden, 1977; Lewis, 1972; Prendergast & Binder, 1975; Williams, 1973). Brookover, Erickson, and Joiner (1967) believe that this inconclusive state of empirical research on self-concept and school achievement is not surprising because most self-concept scales employed in these studies are measures of general self-concept. As such, they contain only a small number of items which relate to academic self-perceptions. Brookover et al. (1967) argue that if the academic dimension of self-concept was controlled, the usual small but positive association between general measures of self-concept and school achievement "will drop to zero" (p. 24). When considering self-perceptions and their relationship to academic ability, it is more appropriate to utilize instruments that deal with more discrete facets of the self-concept (Brookover, Erickson, &

Joiner, 1967; Shavelson, Hubner, & Stanton, 1976; Wylie, 1974).

One of the most widely used assessment techniques for the measurement of self-concept is the self-report inventory (Bills, 1975; Coopersmith, 1959; Piers, 1969). On the basis of recent reviews (Robinson & Shaver, 1973; Wylie, 1974), Smith and Rogers (1977) suggested that the Piers-Harris Children's Self-Concept Scale (Piers, 1969) is one of the best instruments for assessing a child's self-concept. Their conviction of its value is evidenced by their extensive use of the instrument with educationally handicapped children.

Unfortunately, few instruments exist that deal specifically with academic self-concept. Most of those scales which have been used in measuring self-perception of academic ability have received the same inadequate psychometric development characteristic of most self-concept instruments. Although self-perceptions of ability are recognized as important affective influences on achievement outcomes at all levels of schooling (Bloom, 1976; Covington & Beery, 1976), there exist few, if any, well developed measures of academic self-concept for use with elementary school children (Boersma, Chapman, & Maguire, 1978). The Student's Perception of Ability Scale (Boersma & Chapman, 1977) was constructed to meet this need.

The term self-perception of ability was used to reflect "academic self-concept" and refers to the individual's manner of describing and distinguishing himself as unique in terms of interactions and performances on academic school tasks. This self-concept of ability results from the perceptions of the evaluations that significant others hold of the individual's ability, in conjunction with amount of success experienced on academic tasks (Boersma, Chapman, & Maguire, 1978).

From the review of the literature related to the subject, there is some indication, though not a conclusive one, that poor school achievement and poor self-concept are related. Their relationship appears to be such that either condition can cause the other, so the cause-effect relationship may become a circular one.

Issues Relating to Integration

With the accelerating increase in special programs designed to meet the academic needs of atypical students, there has been a concern that the proliferation of such classes may be taking such students away from the mainstream, both educationally and socially (Rhodes, 1977). While the literature includes information relating to the advantages and disadvantages of separating the mentally retarded from the regular class setting, little evidence has been available as to the efficacy of separating slow learners or students exhibiting a variety of

learning disabilities from a heterogeneous setting (Jampolsky, 1972).

Studies dealing with the desirability of separating the mentally retarded from the regular school or classroom setting have been conducted by Blatt (1960), Liddle (1959), Meyerowitz (1962), Osterling (1960), and West (1961). The results generally indicated a lack of concrete evidence that would substantiate the value of separate education for this group.

Bowman and Matthews (1960), as a result of their study on school drop-outs, recommend that schools give serious consideration to grouping students with similar abilities for instructional purposes and provide remedial teaching for those who require such assistance.

Quinlan (1964) found, as a result of his research with students attending special transition classes for adolescents exhibiting a severe academic delay, that there were significant differences in achievement test results in favor of transition class students when compared with similar students either retained in grade six or those promoted to grade seven. The results of questionnaires and interviews administered to these students also indicated that attitudes of students in the transitional classes had noticeably improved toward school.

Although there is a generally recognized acceptance of the fact that pupils with special needs should receive some type of special educational attention, there is

a widespread debate among educators, parents, school board trustees and special interest groups about what form this attention should take and how it can best be provided. Credit for starting the current controversy over the most appropriate form of school placement for exceptional students is generally given to Dunn (1968), although Birch and Stevens (1955), Blatt (1960), and Johnson (1968) had raised the issue earlier. Dunn had questioned whether special class placement was the most appropriate placement for mildly retarded students, particularly those coming from socially or culturally deprived backgrounds. He was not recommending the abolition of special educational programs for the more severely handicapped or for multiply handicapped children, however. Lilly (1970) also emphasized this limitation, extending the concept further when he stated: Traditional special class services as represented by self-contained special classes should be discontinued immediately for all but the most severely impaired" (p. 43).

The emphasis on mainstreamed special education programs developed due to the fact that although the number of special classes proliferated rapidly across North America during the 1960's, there was little empirical evidence to show that the special class was achieving its objectives in the face of growing discontent and opposition to it on social, economic, and other grounds. The fact that a disproportionate number of

students in special classes were non-Caucasian led to strong reaction by minority groups in the United States. As a result, it became more acceptable to place children requiring special educational services in "the least restrictive environment", a term now preferred by the Council for Exceptional Children (Hardy, 1977).

Jackson and Taylor (1973) summarized the advantages usually claimed for the integrated class setting:

> Those in favor of integrated classes agreed that (1) they conformed more closely to democratic values and principles; (2) the mentally retarded child would profit both academically and socially from opportunities for frequent association with normal children; (3) the normal child would acquire a better understanding of and a much greater respect for individual differences; (4) parents tend to devalue their children to a much greater degree in special classes when compared to regular classes; (5) labelling not only influences the retarded child's perceptions of his own abilities, but also affects his actual abilities; and (6) once segregation becomes institutionalized, it is most difficult to eliminate. (p. 29)

These are basically similar to a number of factors suggested by Birch (1974) as providing the impetus for the mainstreaming movement in the United States:

1. School systems are better able today to deliver special educational services anywhere they are needed.
2. Parental willingness to press their demands upon the educational system has increased significantly.
3. Opposition to the tendency to label children according to specific handicaps has increased

considerably, particularly amongst special educators themselves.

4. Court decisions have acted to make unnecessary segregated placement of children unlawful.
5. The validity of testing and measuring instruments upon which placements in special classes were often based, has been questioned both by educators and the courts; one result of the common use of these instruments was an unnecessarily high number of children from lower socio-economic groups having been classified as retarded.
6. The civil rights movement showed a racial imbalance between children placed in special services and those not so placed.
7. The belief developed that nonexceptional children would benefit socially from interaction with those who were exceptional.
8. The effectiveness of the special class in providing social and/or economic benefits to exceptional children was questioned.
9. Because of increased costs generally, and the need for financial restraint, there has been a movement away from separate facilities because of their great cost.
10. Democratical principles are not really met through the provision of segregrated services for the exceptional.

However, it now seems that the same lack of evidence that was apparent with regard to the efficacy of special classes is also true of more integrated facilities, and several researchers (Adamson & Van Etten, 1972; Gickling & Theobald, 1975; Smith & Arkans, 1974) have cautioned against total rejection of the segregated class/school concept. What they did suggest was that it might be necessary to consider a number of different approaches that would allow the individual needs of each student to be matched against an appropriate form of delivery. Adamson and Van Etten (1972) stated that, "Research findings have questioned the efficacy of special classes, but no research has demonstrated that special classes are unsuccessful with all children," (p. 736).

Stainbeck and Stainbeck (1975) also adopted a "wait and see" attitude toward the special class, suggesting that it was better to fully research the problem before discarding one method and adopting another.

Vacc (1968) found that emotionally disturbed children, when placed in regular classes, made less academic progress and negative rather than positive gains behaviorally, when compared to others placed in special classes. They were also less well accepted than normal children in the same class. However, a follow-up study by Vacc (1972) produced contradictory results, leading to the conclusion that:

> Emotionally disturbed children who did not receive special class intervention are accomplishing the objectives of academic achievement, overt behavior, and social position at the same level as children who did have the advantages of a special class. Thus, the conception of placing emotionally disturbed children in special classes for rehabilitation is called into question. (pp. 15-20).

Edwards (1975) and Warner, Thrapp, and Walsh (1973) found that social development in segregated classes was often beneficial because it offered a sense of security and comfort to exceptional children who may have experienced failure and frustration in the regular class. Warner et al. (1973) stated:

> The overall finding which emerges from this study is . . . that the special class is a generally stimulating and comfortable placement for children who have difficulty in adjusting to other placements within the educational system. (p. 38)

McKinnon (1970) found that exceptional children liked being in a special class because they received more assistance from the teacher and had a greater chance of success. This liking was, however, offset by a general dislike felt for other members of the class. This result was similar to one obtained by Jones (1974) who found that exceptional children did not like being placed in a special class but actually enjoyed being in one.

Nash and McQuistan (1975) indicated that they could find no statistical evidence to justify the conclusion that integrated settings were superior to nonintegrated ones. They found no significant differences between the social and academic development of children in a segregated

setting and those in a semi-integrated one. They did conclude that, "While no specific advantages have been found to arise from semi-integration, no disadvantages have been found which could not be readily overcome" (Nash & McQuistin, 1975, p. 64). Their conclusion was that the semi-integrated setting was no worse than the segregated one, therefore it was worth serious consideration.

Gottlieb (1975) found that integrated educable mentally retarded children were frequently not accepted socially by their nonexceptional peers, and in a cross-cultural study between Norway and the United States (1974) concluded that the educable mentally retarded children who had been integrated into regular classes were more often rejected than were children who had remained in segregated classrooms. Snyder, Apolloni, and Cooke (1977) noted that nonexceptional children interacted primarily with other nonexceptional children in most situations, even in integrated settings. Peterson, Peterson, and Scriven (1977) found that, using preschool children as subjects, both the exceptional and nonexceptional children used other nonexceptional children as models for imitation. Their conclusion was that such integration was beneficial because "non-handicapped children have little to lose, and the handicapped have much to gain," (p. 223) from such interaction.

Devoney, Guralnick, and Rubin (1974), on the other hand, found that exceptional children did not really imitate the nonexceptional in most cases unless the play situation was heavily structured by the teacher, and even then only minimal imitation was apparent.

Smith and Arkans (1974) strongly believed that the severely retarded should be placed in segregated settings. They asked: "Need we rediscover that such a child will once again be found to be a 'rejected isolate' in the regular class?" (p. 499).

An advantage of special classes is that they are visible to parents. Brenton (1975) stated:

> Some parents of handicapped children dislike the concept of mainstreaming because they worked hard to get their boys and girls special education, and they're afraid that now their children will either be dumped into regular classrooms without supportive services or that if the services are available at first, they will vanish the moment city and state budgets are cut. (p. 14)

McKinnon (1970) reported mixed feelings from parents when children were placed in a special class. Parents were relieved that their children were in a setting where daily problems were less likely to occur, yet parents indicated concern that their children were segregated from others of their own age.

The evidence presented here should serve to indicate that when considering the most beneficial form of placement for students with special needs, in terms of both the academic and social development of students, it

is almost impossible to say that one form of placement is clearly superior to another. Cantrell and Cantrell (1976) stated: "Although there are many reasons for maintaining exceptional children within the mainstream of public education, there is little empirical data directly supporting the rationale of mainstreaming" (p. 381). Nevertheless, for reasons mentioned earlier in this chapter, mainstreaming may be justified on other grounds as being a worthwhile part of a total approach to special education.

Although there is considerable research related to the efficacy of mainstreaming or integrating mentally handicapped students versus the provision of special class placement, the question of having a separate school facility versus having special classes in a regular school setting for adolescent students exhibiting a range of learning difficulties has not been addressed in the literature. It is important, therefore, to obtain answers to questions such as the following: In which type of school setting do students requiring a specialized school program feel more at ease, both during their time in school and out of school in the community with their peers? How do parents feel about a specialized school facility for their adolescent children with special educational needs? In which setting do students exhibit a stronger self-concept? In which setting is level of academic achievement greater? Answers to such questions

have not been found in the current literature, although Mack (1976) conducted a study of the Trades and Services program in the Edmonton Public School System and found that, on the average, Trades and Services students were well satisfied with the program and with the school setting they attended (whether special vocational high school setting or composite high school). Views of parents were generally in agreement with those of their children.

No literature was found on the subject of level of academic achievement, level of self-concept, or placement preference by students in similar types of specialized educational programs offered in regular and specialized school settings.

Summary of Literature Review

A review of the literature revealed extensive research in the areas of special education in general, self-concept of students as related to school achievement, and personality and academic characteristics of students with special educational needs, particularly school drop-outs. With the recent move to ensure an appropriate education in the least restrictive environment to every child in the United States, mainstreaming has become a popular concept and topic for research across North America. Results in this area have been found to be varied and inconclusive. The Trades and Services

program referred to in this study was thoroughly examined and described by Mack (1976).

Specific issues addressed by this study nave not been researched to this point in time.

SPECIFIC INFORMATION RELATED TO STUDY

Description of Edmonton Public School Board Trades and Services Program

Development of Program

Over the past ten to fifteen years there has been a great emphasis on human rights and the acceptance of a philosophy which stresses values and needs of individuals. Particular attention has been given to the potential drop-out, the slow learner, the handicapped, the learning disabled, the culturally deprived, and the non-English speaking student. A number of programs have been initiated in an attempt to meet the needs of that segment of the total school population which has been unable to perform satisfactorily in regular school programs, or those who have not yet been provided with appropriate public school programs. Many of these programs involve a combination of vocational and general education designed to enable the students to become

independent and self-supporting members of the community.

In 1958, Father Fitzgerald, then Supervisor of Guidance for the Edmonton Separate School Board initiated the first program in Edmonton for high school age students who were not able to meet the demand of academically oriented classes. This program was named the Pre-Employment program.

Following the success of the Edmonton Separate School Board's Pre-Employment program, in 1960 the Edmonton Public School Board introduced a program specifically designed to serve over-age students who were not academically inclined and who would probable drop out of school immediately after reaching the age when school attendance was no longer compulsory. This program concentrated on the development of vocation and basic academic skills, to prepare the students to enter employment in service or trade areas. The Pre-Vocational program began as a one-year program devoted to the improvement of students' basic education. In 1961 the program became a two-year program, with a heavy vocational emphasis in the second year. In 1964 the Pre-Vocational program became a three-year program, with students concentrating on one vocational area in the third year of the program.

During the first four years of the program's operation, classes were accommodated in five junior high schools. MacKay Avenue School was opened to accommodate second and third year students in September, 1964. In 1968 the W. P. Wagner High School was opened to accommodate the Pre-Vocational program.

As the popularity of this program grew, enrollments increased and plans were made to begin another program of this type. A pilot school for this second program was started at MacKay Avenue School in the fall of 1969, under the name of the General Vanier High School. This name was later changed to the T. D. Baker High School. While planning for the construction of the new school was underway, the program continued at the MacKay Avenue School. In 1972 the program was moved into facilities at Victoria Composite High School as a separate school on shared facility space. In 1973 the program was expanded to Jasper Place Composite High School, as facilities at the W. P. Wagner and T. D. Baker settings were unable to meet the demand for the program. At that time the name of the program at all three centers was designated Trades and Services. Since the end of the 1975-76 school year, the T. D. Baker School was terminated, with that Trades and Services program becoming part of the program offering within Victoria Composite High School.

The Trades and Services program is presently offered in three settings--W. P. Wagner, which is a

separate vocational high school; and Jasper Place and Victoria, which are composite high school settings.

General Objectives

The following have been the general objectives of the Pre-Vocational, Pre-Employment, and Trades and Services programs since their implementation (Mack, 1976).

1. To encourage students who would ordinarily drop out of school to continue their education, by offering them a special high school program of at least three years in length.

2. To encourage students to set realistic goals of achievement and to assist them in reaching their goals by providing them with a diversified program in which they experience success.

3. To change students' attitudes toward learning, themselves and society by providing:

   a. an academic program designed to upgrade basic academic skills;
   b. a vocational program designed to provide students with experiences which will enhance their opportunities for gainful employment;
   c. an option program to provide students with interests and skills which will enrich their daily lives.

d. an atmosphere conducive to the development of improved social skills and self-confidence. (p. 11)

Criteria for Enrollment

Students enrolling in the first year of the Trades and Services are expected to be at least fifteen years of age on September 1 of the year of enrollment. Exceptions to this rule are made on an individual basis. The Trades and Services program serves Edmonton Public School Board and nonresident students in each of the three schools offering the program. Approximately ten per cent of the students are nonresident, originating from outlying school districts or from the Alberta School for the Deaf. Such students are accepted by the Edmonton Public School through a contract with the sponsoring school jurisdiction.

A large percentage of the Trades and Services students come from the junior high school Pre-Vocational program, a special education program for students exhibiting severe educational difficulties at the junior high school level. The largest percentage of students who enroll in the Trades and Services program come from the regular junior high school program and have a history of significantly below average performance in academic courses in the regular junior high school. Generally, such students will have spent one year in grade nine, however it is

expected that students who enroll in the Trades and Services program are those who will not be successful in a regular high school program. Only a very few students transfer to the Trades and Services program from other senior high school programs. The male/female ratio in the Trades and Services program has traditionally been about two boys to every girl.

The Trades and Services program has been designed for students who desire general education and vocational preparation beyond the junior high school level and who require remediation prior to embarking upon regular high school programs. This is a particularly appropriate program for those students, who, despite poor academic performance, show practical interest and aptitude in industrial arts, home economics, handicrafts, hobbies, or part-time employment.

Junior high school principals and counselors are expected to ensure that all prospective Trades and Services students and their parents have a full understanding of the Trades and Services program. All applications to the program must be supported by the signature of the prospective student's parent or guardian.

Student Characteristics

As suggested by the selection criteria, the program attracts students who have experienced little success in

in their school years. Such students tend to exhibit several of the following characteristics (Mack, 1976):

1. Poor reading ability;
2. Ineffective study habits;
3. Irregular school attendance;
4. Marked disinterest in school and nonparticipation in extra-curricular activities;
5. Lack of self-confidence and initiative, often hidden behind aggressive behavior;
6. Passive and indifferent attitude; and
7. Negative attitudes toward parents, teachers, school and self. (p. 12)

Teaching Process

It is obvious that to enable the student to have a more successful educational career, the traditional teaching approach used in the regular program must be modified. The most difficult task facing teachers of Trades and Services students is to effect behavioral and attitudinal change. To succeed, it is essential that superior teaching methods are used. As smaller classes are an integral aspect of the program, the chance for a more individualized approach exists. When students believe that someone recognizes and cares for them, they become more responsive and eager to learn. There is more emphasis on providing situations and experiences with which students have a reasonable chance of success.

Learning is carried out through planned active participation involving practical manipulative materials. Teachers are consciously teaching students responsibility and self-direction by confronting students with real life situations and the necessity of being responsible for one's own decisions and actions.

Curriculum Organization

The Trades and Services program offers general educational experiences designed to prepare students for a balanced and productive life. The curriculum consists of academic instruction, vocational preparation, and interest courses in physical education, recreation, and the arts.

1. Academic program. Approximately one-half of the student's time in school is devoted to courses designed to improve their general educational background. Since adequate preparation for life demands reasonable competence in speaking, writing, reading, and basic mathematics, all students are given the opportunity to develop these basic skills to the fullest extent possible. In the first year students concentrate upon improving basic skills. During the second and third years, opportunity is provided for students to broaden their formal educational background.

2. Vocational program. Approximately one-half of the school time is spent in vocational courses. The vocational program is designed so that students have an

opportunity to become acquainted with the basics in a variety of trades and services. The first year is devoted to vocational familiarization. The second year, students narrow their choice to three or four areas, depending upon aptitude and interest. During the third year the choice is further narrowed, usually to only one vocational area.

The vocational program is vital in that it is here that students are provided with many immediate and meaningful success experiences which contribute immeasurably to the enhancement of self-worth and development of self-confidence.

3. Option program. Depending upon the school, students may select optional courses such as drama, music, art and physical education. Students are encouraged to take part in extra-curricular activities and to join clubs which satisfy a variety of interests.

Comparison of Trades and Services Centers in Edmonton Public Schools

For registration purposes, junior high schools have been designated as "feeder schools" to senior high schools offering the Trades and Services program in a particular geographical zone of Edmonton. Pre-Vocational students from junior high school special education classes are directed to all three Trades and Services centers for their high school registration, depending

upon the student's area of residence. All three schools offering the Trades and Services program receive students from a wide range of schools and socio-economic areas, as well as nonresident students.

Notwithstanding the geographical area in which the student resides, a student may, with parental consent, for a variety of reasons, elect to request attendance at a school offering Trades and Services other than the center closest to the student's residence. If there is sufficient room at the requested location, the student will be accommodated at the center of first choice. Requests for program reasons are given first consideration. If there is insufficient room at the desired location, the student is accommodated at the Trades and Services center for the zone in which the student resides.

Academic upgrading and vocational orientation courses, and the level of performance expected of students are similar in all three locations. However, some differences in the organization of the program may be identified.

Vocational High School (W. P. Wagner)	Composite High School (Jasper Place, Victoria)
a. Serves only Trades and Services students.	Regular high school setting serving students in a variety of programs--matriculation, technical, business, and vocational. Trades and Services students are a minority.
b. Total school enrollment approximately 1,100.	Total school enrollment approximately 1,700 or more.
c. Integration into regular high school program requires transfer after Year I, II, or III.	If warranted, opportunity for integration into regular high school program after participation in Year I, without a trasfer from the school.
d. Choice among 15 vocational areas in Year I.	Year I program at Jasper Place is predetermined. Victoria offers choice among 13 vocational areas in Year I.
e. Southeast location--school bus transportation essential for most students.	Victoria is centrally located. Jasper Place is accessible by public transit to west Edmonton residents.

(Edmonton Public School Board Trades and Services Program, 1978-79, Appendix A)

CHAPTER III

DESIGN OF STUDY

Research Problem

In view of the current educational controversy regarding the advantages of special education program versus mainstreaming of students with special needs, this study was designed to look at achievement levels, attitudes and opinions of students attending the same program under two different types of organizational structure. Views of parents of students in the program were also obtained.

Hypotheses

In this study, the following hypotheses are examined:

Achievement

1. H_o: There is no difference in mathematics achievement between second year Trades and Services students enrolled in vocational or composite high school settings.
2. H_o: There is no difference in reading achievement between second year Trades and Services students enrolled in vocational or composite high school settings.

3. H_o: There is no difference in vocabulary achievement between second year Trades and Services students enrolled in vocational or composite high school settings.

Self-Concept

1. H_o: There is no difference in academic self-concept between second year Trades and Services students enrolled in vocational or composite high school settings.
2. H_o: There is no difference in general self-concept between second year Trades and Services students enrolled in vocational or composite high school settings.

Student Attitude Toward School

H_o: There is no difference in attitude toward school between second year Trades and Services students enrolled in vocational or composite high school settings.

Parental Attitude Toward the Trades and Services Program

H_o: There is no difference in attitude toward the Trades and Services between parents of second year Trades and Services students enrolled in vocational or composite high school settings.

Choice of School Setting

1. H_o: There is no difference in preferred setting for the Trades and Services program indicated by second year Trades and Services students enrolled in vocational or composite high school settings.
2. H_o: There is no difference in preferred setting for the Trades and Services program indicated by parents of second year Trades and Services students enrolled in vocational or composite high school settings.

Rationale for Null Hypotheses

From the inconclusive results obtained through a review of the related literature, there was no clear direction to the expected findings from this study. Although directional hypotheses might have lent themselves to a more powerful statistical treatment, the nondirectional null hypothesis was the most appropriate approach for purposes of this study.

Sample

The sample for this study consisted of students enrolled in the second year of the Edmonton Public School Board Trades and Services program during the 1978-79 school term. This program was offered at Jasper Place Composite, Victoria Composite, and W. P. Wagner Vocational High Schools to students exhibiting

similar educational, intellectual, and social characteristics. The total possible sample consisted of 426 students, with the number of second year Trades and Services students enrolled in each of the three settings being: Jasper Place Composite--59; Victoria Composite--95; W. P. Wagner--272. In using the sample comprised of all second year Trades and Services students, the following assumptions were made: (a) that the sample represents all Trades and Services students and (b) that the schools used in the study are representative of segregated and composite high schools generally.

Varying numbers of students completed each instrument in this study due to the fact that the testing took place during the latter part of April, and during May, 1979. At this time, some students were participating in work experience programs, some students had dropped out of the program, and a few were already employed on a full time basis. Some students were still enrolled in school but were not in attendance at all testing sessions. For this reason, the total number of students enrolled in each school, as well as the total number and percentage of respondents are included in Tables 1 to 13 (Chapter 4) and Tables A to L (Appendix I).

Procedure

The number of instruments to be administered and the necessity of having the testing completed in as short

a time as possible to accommodate the schools at a very busy time of year were factors in the decision to have two pair of research assistants administer all the instruments to the student population. Graduate students enrolled in doctoral and masters level programs in the Department of Educational Psychology at the University of Alberta were employed to administer the complement of tests and questionnaires to the student sample. These research assistants all had several years extensive work and practicum experience in assessing and working with students of the same age and intellectual and social characteristics as second year Trades and Services students. Two research assistants administered tests and questionnaires to students at W. P. Wagner Vocational High School, while two other research assistants administered tests and questionnaires to students at Jasper Place and Victoria Composite High Schools. The research staff had been instructed on how to discharge their duties at a meeting attended by the researcher and the four assistants.

In order to choose the assessment devices to be used, pilot testing was done with students enrolled in the first year of the Trades and Services program at W. P. Wagner School, in early December, 1978. It was found that the instruments initially chosen were much too difficult for Trades and Services students to read and complete. The tests first selected, but found to be

inappropriate were: Nelson Reading Test, Stanford Achievement Test (Mathematics), Tennessee Self-Concept Scale, Rotter's Internal-External Locus of Control Scale, and IPAT (Institute for Personality and Ability Testing) Anxiety Scale.

It was thus necessary to find less complex instruments with a lower reading level. These were subsequently chosen by the researcher, and reviewed with and approved by administrative and teaching staff of the three schools involved. These instruments were chosen due to their low reading and high interest level, their educational acceptability to staff working with Trades and Services students, and their expected acceptability to and appropriateness for use with the student sample involved in this study. The instruments chosen were: STEP Reading Test, STEP Vocabulary Test, Mathematics Inventory, Piers-Harris Children's Self-Concept Scale, and Student's Perception of Ability Scale.

Parent questionnaires and students questionnaires were prepared by the researcher. Parent questionnaires were mailed to parents or guardians for their completion and return, and parents were asked to indicate if they wished to receive a summary of the final results of the study. Students were requested to encourage their parents to return the completed questionnaires. In cases where the parent questionnaires had not been returned within a three-week period, telephone contact

was made with parents, to explain the importance of the study and to request the return of the completed questionnaire. In a number of cases, parents indicated that no questionnaire had been received or that the questionnaire had been destroyed. In such instances, a duplicate questionnaire was mailed to the parent. In some instances, parents indicated completed questionnaires had been returned by mail to the researcher, but they never were received. A total of 27 questionnaires were returned to the researcher due to an incorrect or change of address. In 15 of these cases, duplicates were readdressed, while in 12 instances it was found to be impossible to contact parents or guardians by mail or by telephone.

Instruments Used

Sequential Tests of Education Progress (STEP)

Step III, used in this study, is the latest edition of a long series of STEP tests. Over a twenty year period, the STEP test group has been well recognized and accepted by school districts in Canada and the United States. STEP III is a very new (1979) comprehensive assessment program that can be used for program evaluation and for diagnosing the instructional needs of individual students. The range of these standardized instruments is from the nursery school through high school

level, with ten levels of tests in eight different content areas. The philosophy behind STEP is that top priority should be given to testing students on basic skills and concepts necessary for continued educational progress, and not merely on the memorization of facts. STEP tests were designed to be measures of the student's educational development and ability to recall and use language and symbols most commonly used in the classroom. STEP tests are power tests, have a maximum of sixty items per test, and can be administered within a forty minute period. All test items are multiple choice and can be machine scored.

The standardization of STEP III was conducted during the 1977-78 school year with a representative sample of approximately two hundred thousand students from over eight hundred schools across the United States. To account for environmental influences that can influence test scores, the norming sample was stratified by geographical region, socio-economic status, minority stutus, and rural, suburban, and urban setting. The school districts were randomly selected with the probability of being selected proportional to size. Testing was conducted three times during the school year--in October, 1977; January, 1978; and May, 1978.

During the 1978-79 school year, research studies were to have been conducted under tne auspices of the test publishers to obtain evidence of the concurrent

validity of STEP III tests. Results of this research are not yet available.

The reliabilities of STEP tests have been calculated by determining the internal consistency of each test item. As these are conservative determinations, reliabilities obtained in this way are lower than those obtained by test-retest or parallel comparisons. Although reliabilities of the STEP III Vocabulary Test are not yet available due to their newness, reliabilities of the STEP Reading Test Level I are between .89 and .93, depending upon student grade level. As STEP III has been developed as an improvement over past STEP tests, it is expected that the reliabilities of the STEP III tests will be found to be at least this high. Although the STEP III tests had not been used with Trades and Services students prior to this study, teachers in the English Department associated with one of the Trades and Services programs studied the STEP III tests and indicated that they thought them to be appropriate and useful measures of reading and vocabulary for use with the Trades and Services student population.

The STEP Reading and STEP Vocabulary tests administered as part of this study were Level I, Form X (Advanced)--Grade 7 through Grade 10. The STEP tests which were used in this study are planned to be utilized by the Edmonton Public School Board for regular testing of Trades and Services students during the 1979-80 school term.

STEP Reading

STEP Reading tests (Appendix B) are divided into approximately one-third vocabulary questions within the context of other material, one-third comprehension items, and one-third inference items. The stimulus material contains both academic and nonacademic reading material. All tests have drama, poetry, social studies, science, and narrative stimulus material, and one or more passages with a nonacademic orientation, such as a newspaper article, an advertisement, a letter, or a set of instructions. The Reading tests measure the student's ability to comprehend and interpret written material; they do not focus on any particular program or method of reading instruction, but rather on the end result of the process.

STEP Vocabulary

STEP Vocabulary tests (Appendix C) require a minimum of reading so that the student's acquisition of vocabulary can be measured separately from reading comprehension and vocabulary in context. Each vocabulary test is composed of thirty synonym items and measures the student's knowledge of the meaning of words. Words were selected from various parts of speech, content categories, and word forms. Samples were taken from a variety of text books at the appropriate grade levels.

Mathematics Inventory

The Mathematics Inventory (Appendix D) is a locally prepared instrument, developed by teachers at W. P. Wagner Vocational High School, specifically for use with Trades and Services students. The test consists of fifty multiple choice questions with five possible choices for each item. This is a diagnostic device, with each question assessing a different mathematical skill or level of understanding.

In had been found that commercial mathematics tests had one or more of the following weaknesses which made them inappropriate for use with Trades and Services students: concept level tested is inappropriate; test does not have a large enough spread; test is not diagnostic making it less useful for purposes of instruction; test relies too heavily on reading ability of students; or test is perceived by students to be too infantile for their age and interest level.

Due to its successful use with Trades and Services students in the past, the Mathematics Inventory was considered to be an appropriate instrument for use in this study. Although it was developed for use with students at W. P. Wagner school, principals of all three Trades and Services locations were agreeable to having this test administered to their students as part of this study. As this is a locally developed and relatively new test

designed mainly for diagnostic purposes with a limited population, validity and reliability statistics have not yet been determined.

The Mathematics Inventory was administered by teachers as part of the regular Mathematics program to second year Trades and Services students at W. P. Wagner Vocational High School This test was administered by research assistants as part of this study to second year Trades and Services students at Jasper Place and Victoria Composite High Schools.

Student Questionnaire

The Student Questionnaire (Appendix E) was developed by the researcher specifically for use in this study. It consisted of twenty-eight general statements relating to school to which the forced choice responses of "Agree", "Disagree", or "Uncertain" were to be made. Descriptive, demographic, and subjective data were requested by means of twenty additional questions.

Some items corresponded with items included on the Parent Questionnaire. Although a limited amount of information was required for the purposes of this study, a number of placebo questions were included in order to mask the most important questions. This was to ensure as honest responses as possible. Responses to the following items on the Student Questionnaire were analyzed for the purposes of this study: Part A: 10, 25, 26, 27, 28. Part B: 4, 5, 11, 12, 15, 16, 18.

During the development of the Student Questionnaire, this instrument was discussed at some length with selected staff employed in the Trades and Services program to ensure appropriate wording of the questions. A Student Questionnaire for another, unrelated study had been administered to first and third year Trades and Services students at W. P. Wagner School earlier in the year. This instrument was shared with the researcher and some of the same type of items were used for this study.

Before the administration of the Student Questionnaire, it was discussed with eight similarly aged students known personally to the researcher and who were not involved in the study, in order to obtain student reaction both to specific items and to the questionnaire in general.

Parent Questionnaire

The Parent Questionnaire (Appendix F) was developed by the researcher specifically for use in this study. It consisted of seventeen statements to which the forced choice responses of "Agree", "Disagree", or "Uncertain" were to be made. Statements used were general ones regarding parental attitudes toward the Trades and Services program and how parents felt about their child's placement in the program. Two additional items requested subjective written reaction by parents to the Trades and Services school setting. A number of items were placebo items meant to mask the most significant questions, in

order to obtain as honest responses as possible. Responses to the following items on the Parent Questionnaire were analyzed for the purposes of this study: 1, 7, 9, 16, and 17.

During its development, the Parent Questionnaire was discussed with Trades and Services program staff, resulting in useful advice to the researcher. Before distribution, the Parent Questionnaire was discussed with three parents of Trades and Services students known to the researcher and who were not involved in the study, as well as with four similarly known parents of high school age students attending regular programs. A number of useful suggestions were obtained and implemented by the researcher before the questionnaires were mailed to parents.

Steps Followed in the Preparation of Questionnaires

1. Determination of information required from questionnaires.
2. Development of draft questionnaires.
3. Review of questionnaires with school personnel, for appropriateness of questions and reading level.
4. Review of questionnaires with selected parents and students.
5. Review of questionnaires with advisor and University of Alberta personnel.

6. Printing of revised questionnaires.
7. Administration or mailing of questionnaires to subjects.

Piers-Harris Children's Self-Concept Scale

The Piers-Harris Children's Self-Concept Scale, The Way I Feel About Myself (Appendix G), was utilized as a measure of general self-concept. This self-report, eighty-item instrument consisting of forced choice "Yes-No" responses was developed by Piers and Harris in 1969. The items are worded in such a way that approximately one-half indicate a positive self-concept and one-half indicate a negative self-concept. This format was implemented to reduce response set bias. Although the Piers-Harris Children's Self-Concept Scale was designed to measure general self-concept, there are six item clusters or factors in the instrument: undesirable or bad behavior, intellectual and school status, physical appearance and attributes, anxiety, popularity, and happiness and satisfaction.

The Piers-Harris Children's Self-Concept Scale was standardized on a sample of 1,183 children in grades four through twelve. The internal consistency of the scale ranged from .78 to .93 and retest reliability ranged from .71 to .77. Correlation with similar general self-concept instruments indicated teacher and peer validity coefficients of .40. This scale has sufficient reliability

and validity to be used extensively in research (Bentler, 1972). The Piers-Harris Children's Self-Concept Scale has been utilized as a measure of self-concept in a number of studies (Anderson, 1979; Cenname, 1977; Boersma & Chapman, 1978; Clark, 1976; Fredman, 1976; Shreve, 1973).

Shreve (1973) conducted a critical analysis of the following self-concept instruments: the Coopersmith Self-Esteem Inventory, the Piers-Harris Children's Self-Concept Scale, the Tennessee Self-Concept Scale, and the Thomas Self-Concept Values Test. Assessing these instruments in terms of the Standards for Educational and Psychological Tests and Manuals, published by the American Psychological Association (1966), Shreve noted that the four instruments examined were deficient in the area of criterion-related validity, and none of the instruments had alternate forms for pre- and post-assessments. However, Shreve concluded that the Piers-Harris was the superior instrument of those he assessed.

The Piers-Harris Children's Self-Concept Scale is an instrument easily read and understood without appearing too infantile for the Trades and Services population.

Student's Perception of Ability Scale

Boersma and Chapman's (1978) Student's Perception of Ability Scale (Appendix H) was used as a measure of self-reported academic self-concept with the population in this study. This instrument was developed to meet

the need for an instrument to measure academic rather than general self-concept in school age children. The Student's Perception of Ability Scale consists of 70 self-report items which are answered through forced choice "Yes-No" responses. This scale consists of the following six subscales: perception of general ability; perception of arithmetic ability; general school satisfaction; perception of reading and spelling ability; perception of penmanship and neatness; and confidence in academic ability.

Boersma, Chapman and Maguire (1978) stated the following regarding the Student's Perception of Ability Scale:

> This scale has six meaningful factors which related to perceptions of ability in specific school subjects and to more general school attitudes. In terms of reliability, the SPAS has good internal consistency and stability, thus suggesting that the scale is a dependable instrument with strong internal validity. (p. 16)

In an attempt to provide substantive structural and external validity for the scale, the Student's Perception of Ability Scale was developed through a series of four studies. A sample of 319 third grade children from five schools were initially used for data collection to determine the factor structure for the SPAS. A second study involved 642 students in third, fourth, and fifth grades at two schools, whose response scores were utilized for full and subscale intercorrelations,

normative statistics, and estimates of discriminant validity between the Student's Perception of Ability Scale and the Piers-Harris Children's Self-Concept Scale. A third study involved the identification of 81 learning disabled children and 81 control children from the second sample. The purpose of this study was to investigate individual differences between these groups in terms of self-perceptions and mother's perceptions of the child's abilities. The fourth study investigated the relationship between report card grades and the Student's Perception of Ability Scale scores for a sample of 642 students taken from the second study. The Student's Perception of Ability Scale was found to moderately ($r = .49$) predict grade point average (Boersma, Chapman, & Maguire, 1978). This correlation level between the Student's Perception of Ability Scale and grade point average is consistent with other reported self-concept measures and school grades (Bloom, 1976). In this respect, this instrument can be considered to be moderately predictive of school success.

The reliability of the full scale of the Student's Perception of Ability Scale, determined by a measure of internal consistency, was found to be .915, with subtest reliabilities between .686 and .855. This would suggest that items within individual subscales are relatively homogeneous and that all items considered together appear to be tapping a common domain. Test-retest reliability

over a four to six week interval was found to be .834 for the full scale score of the Student's Perception of Ability Scale (Boersma, Chapman, & Maguire, 1978).

Boersma, Chapman, and Maguire (1978) compared the Student's Perception of Ability Scale with the Piers-Harris Children's Self-Concept Scale and concluded that the Student's Perception of Ability Scale measures achievement self-concept which is different from general self-concept measured by the Piers-Harris:

> Discriminant validity was estimated from correlations between the SPAS and the Piers-Harris test of general self-concept. Negligible correlation between the two scales and subscales suggest that the SPAS is tapping something quite different from general self-concept. Furthermore, these findings are supportive of other researchers' calls for instruments which "measure more molecular" facets of self-concept (e.g., Brookover, et al, 1965, 1967; Shavelson, Hubner, & Stanton, 1976; Wylie, 1961, 1974). (p. 6)

In terms of experimental ability, the data indicated that the Student's Perception of Ability Scale clearly differentiated between children who have learning problems and those who do not. This finding is in keeping with the theory that successful and unsuccessful students develop different self-perceptions of ability (Bloom, 1976; Brookover et al., 1965, 1967; Covington & Beery, 1976), and showed the Student's Perception of Ability Scale to be sensitive to those differences.

Further validation of the instrument is being undertaken by the authors of the test to establish the

relationship between academic self-concept and other cognitive measures, such as intelligence and achievement, and of affective variables including expectancy of academic performance.

The Student's Perception of Ability Scale was utilized to determine the level of achievement self-concept of students attending Trades and Services programs. Although the age level of these students was higher than subjects previously tested with this instrument, the relatively low reading level of this group and the fact that the wording of most items on the scale was acceptable to the population were important factors in the choice of this test for use in the study.

Summary

The sample involved in this study consisted of students enrolled in the second year of the Trades and Services program at Jasper Place Composite, Victoria Composite, and W. P. Wagner Vocational High Schools during the 1978-79 school term. Parents of these students were also requested to complete a questionnaire as part of this study.

The following instruments were utilized in this research:

1. STEP Reading Test
2. STEP Vocabulary Test

3. Mathematics Inventory

4. Student Questionnaire

5. Parent Questionnaire

6. Piers-Harris Children's Self-Concept Scale

7. Student's Perception of Ability Scale.

The null hypotheses examined in this study related to achievement, self-concept (general and perception of ability), and attitudes of students and parents toward high school in general and the Trades and Services program in particular.

CHAPTER IV

FINDINGS

Statistical Analysis

In order to test the hypotheses examined by this study, an analysis was required which would compare the two groups of Trades and Services students--those enrolled in a segregated vocational high school setting (W. P. Wagner), and those enrolled in composite high school settings (Jasper Place and Victoria) on a number of measures.

A priori comparisons were utilized in this study. Tests involving a specific set of hypotheses that an experiment is designed to test are referred to as "a priori" or planned comparisons. Comparisons among means that are orthogonal and that fall in the a priori category can be carried out by using a t-ratio. For planned orthogonal comparisons it is generally recommended that comparisons be evaluated at the .05 level of significance by means of a t-ratio. In order to be considered significant within the context of this study, results had to exceed the .05 level of significance.

A t-ratio was used to test for differences between means obtained by students from the two types of settings

on achievement, attitude, and self-concept scales, and on group tests of intelligence. A Contrast Coefficient Matrix was utilized to test for differences between the two schools making up the composite high school sample. Cochrans C was utilized as a test of homogeneity of variance. The Cochran test is widely accepted as having adequate sensitivity for testing homogeneity in situations where hetereogeneity of variance may be suspected.

The Chi-square distribution was used to test for equivalence of occupational level of parents of Trades and Services students enrolled in the three school and on items used to determine reasons students decided to enroll in the Trades and Services program, future educational and vocational plans of students and school staff students approach most readily when they encounter difficulties.

Tables of significant results will be found within the text. For those results not found to be significant, tables will be found in Appendix I.

Throughout this study, on statistical tables, Group 1 refers to the student population from Jasper Place Composite High School, Group 2 refers to the student population from Victoria Composite High School, and Group 3 refers to the student population from W. P. Wagner Vocational High School.

Student Characteristics

It was necessary to determine the equivalency of characteristics of Trades and Services students in the two groups before testing for differences in achievement, self-concept, and attitudes toward school.

Characteristics of students in the sample were examined by comparing student scores or responses on the following:

1. Lorge Thorndike Intelligence Test (a) Verbal (b) Non-Verbal;
2. Parental occupation level;
3. Part time employment--incidence and time spent;
4. Educational and vocational Plans;
5. Reasons for enrollment in Trades and Services.

1. Lorge Thorndike Intelligence Test

Scores on the Lorge Thorndike Intelligence Test were obtained from the student's school for students comprising the sample.

a. Verbal. A significant t-value was obtained ($p = .014$; Table 1). The analysis of student scores on the Lorge Thorndike Intelligence Test (Verbal) indicated that Trades and Services students attending the segregated vocational high school had made significantly lower scores on this measure than did Trades and Services student attending the composite high schools.

Table 1

Analysis of Results of Second Year Trades and Services Students of Lorge Thorndike Intelligence Test (Verbal)

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	47	59	79.7	86.44	12.05
Victoria	52	95	54.7	85.75	9.81
W. P. Wagner	185	272	68.0	82.74	10.33
Total	284	426	66.7	83.90	10.63

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.4173, $p \leq 0.039$

(d) Separate Variance Estimate

	Standard Error	t Value	D.F.	p
Contrast 1	1.34	2.49	172.9	0.014*
Contrast 2	2.23	0.31	88.8	0.755

*Significant at 0.05 level

b. Non-Verbal. There was no significant t-ratio obtained (Appendix I; Table A). The analysis of student scores on the Lorge Thorndike Intelligence Test (Non-Verbal) indicated no significant difference on this variable between scores of students enrolled in the segregated vocational or composite high school settings.

2. Occupational Class

On a Student Questionnaire, students in the sample were requested to indicate the occupation of each parent. These responses were then classified according to the Pineo Porter Scale of Occupational Class. Responses to the Pineo Porter Scale can be classified either by using a numerical score for each occupation or by placing each occupation into one of a number of occupational categories. After tabulating the student responses, it was determined that the more reliable method would be to utilize occupational categories in analyzing the results.

A Chi-Square distribution was determined to test for equivalence of occupation of parents of students in the Trades and Services program. No significant differences in occupational categories of mothers of students from the three schools was found (Appendix I; Table B). The distribution of fathers' occupations was found to be significant ($p = .0046$; Table 2).

Significant differences in occupational categories of fathers of students from the three schools were noted in the following areas:

Table 2

Chi-Square Distribution on Pineo Porter Scale of Occupational Class--Fathers of Second Year Trades and Services Students Attending Jasper Place, Victoria, and W. P. Wagner High Schools

COUNT ROW PCT COL PCT TOT PCT	Profes-sional	Semi-Pro-fessional	Proprietors, Managers & Officials Large	Proprietors, Managers & Officials Small	Clerical Sales	Skilled	Semi Skilled	Un-skilled	Farmer	Others	ROW TOTAL	Possible N	Percent Response
Jasper Place	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	18 42.9 34.0 6.8	1 2.4 4.3 0.4	12 28.6 17.9 4.5	9 21.4 14.5 3.4	1 2.4 4.3 0.4	0 0.0 0.0 0.0	1 2.4 9.1 0.4	42 15.8	59	71.2
Victoria	2 5.1 14.3 0.8	2 5.1 33.3 0.8	0 0.0 0.0 0.0	7 17.9 13.2 2.6	2 5.1 8.7 0.8	5 12.8 7.5 1.9	10 15.6 16.1 3.8	7 17.9 30.4 2.6	0 0.0 0.0 0.0	4 10.3 36.4 1.5	39 14.7	95	41.1
W. P. Wagner	12 6.5 85.7 4.5	4 2.2 66.7 1.5	3 1.6 100.0 1.1	28 15.2 52.8 10.6	20 10.9 87.0 7.5	50 27.2 74.6 18.9	43 23.4 69.4 16.2	15 8.2 65.2 5.7	3 1.6 100.0 1.1	6 3.3 54.5 2.3	184 69.4	272	67.6
COLUMN	14	6	3	53	23	67	62	23	3	11	265	426	62.2
Total	5.3	2.3	1.1	10.0	8.7	25.3	23.4	8.7	1.1	4.2	100.0		

CHI SQUARE = 37.42686 WITH 18 DEGREES OF FREEDOM SIGNIFICANCE = 0.0046**

**Significant at .01 level

COUNT = Number; ROW PCT = Percentage (School); COL PCT Percentage of Sample in Category; TOT PCT = Percentage (Total Sample)

a. A greater proportion of fathers of Jasper Place students were in the category "Proprietors, Managers, and Officials" than were fathers of students from either Victoria or W. P. Wagner.

b. A greater proportion of fathers of Victoria students were in the categories "Unskilled" or "Other" than were fathers of students from either Jasper Place or W. P. Wagner.

c. A greater number of fathers of W. P. Wagner students were in the "Clerical or Sales" category than were fathers of students from either Jasper Place or Victoria.

This data was intended to be descriptive only and not meant to be further analyzed or related to socio-economic status of the parents or students.

3. Incidence of and Time Spent on Part Time Employment

a. Incidence. On the Student Questionnaire, students were requested to indicate whether they held part time jobs, and, if so, to indicate the amount of time they worked. Upon analyzing information obtained, a significant t-ratio was calculated ($p = .004$; Table 3). Proportionately, significantly more students from the composite high school settings were found to be employed on a part time basis.

b. Time Spent on Part Time Employment. Upon analyzing responses to time spent by students on part

Table 3

Incidence of Part Time Employment
of Second Year
Trades and Services Students

(a) Means and Standard Deviations

Group	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	49	59	83.1	1.38	0.49
Victoria	52	95	54.7	1.23	0.50
W. P. Wagner	232	272	85.3	1.48	0.51
Total	333	426	78.2	1.43	0.51

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.3483, $p \leq 0.672$

(d) Pooled Variance Estimate

	Standard Error	t Value	D.F.	p
Contrast 1	0.06	-2.91	330.0	0.004*
Contrast 2	0.10	1.94	330.0	0.125

*Significant at .05 level

time employment, a significant t-ratio was calculated ($p = .001$; Table 4). Proportionately, students from the composite high schools were found to spend significantly more time in part time employment than students attending the vocational high school.

4. Future Plans of Students

Students in the study were requested to indicate their future educational or vocational plans on the Student Questionnaire.

A chi-square distribution was determined to test for differences in responses among students enrolled in the three schools. The Chi-square obtained was significant ($p = .027$; Table 5).

The following significant differences among schools were evident:

a. Proportionately, nearly twice as many students from composite high school settings than from the vocational school were planning on completing grade twelve. Students from the vocational high school would be required to attend another high school to graduate, perhaps accounting for at least some of this difference.

b. Proportionately more than twice the number of students from the vocational high school than from the composite high schools planned on seeking employment immediately after completing the Trades and Services program.

Table 4

Amount of Time Spent on Part Time Employment
by Second Year
Trades and Services Students

(a) Means and Standard Deviations

Group	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	49	59	83.1	1.48	1.26
Victoria	52	95	54.7	1.71	1.21
W. P. Wagner	232	272	85.3	1.12	1.22
Total	333	426	78.2	1.26	1.24

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.3495, p. $\leq$ 0.649

(d) Pooled Variance Estimate

	Standard Error	t Value	D.F.	p
Contrast 1	0.14	3.28	330.0	0.001**
Contrast 2	0.24	-0.90	330.0	0.364

**Significant at .01 level

Table 5

Chi-Square Distribution of Future Plans of Second Year Trades and Services Students

COUNT ROW PCT COL PCT TOT PCT	No Response	Complete Grade 12	Appren-ticeship	Attend NAIT	Seek Employment	Other	1 Response	ROW TOTAL	Possible N	% Response
Jasper Place	0 0.0 0.0 0.0	20 40.8 19.6 6.0	6 12.2 16.5 1.2	9 18.4 19.1 2.7	4 8.2 8.3 1.2	2 4.1 10.0 0.6	8 16.3 15.4 2.4	49 14.7	59	83.1
Victoria	2 3.8 28.6 0.6	26 50.0 25.5 7.8	7 13.5 12.3 2.1	4 7.7 8.5 1.2	3 5.8 6.3 0.9	3 5.8 15.0 0.9	7 13.5 13.5 2.1	52 15.6	95	54.7
W. P. Wagner	5 2.2 71.4 1.5	56 24.1 54.9 16.8	44 19.0 77.2 13.2	34 14.7 72.3 10.2	41 17.7 85.4 12.3	15 6.5 75.0 4.5	37 15.9 71.2 11.1	232 69.7	272	85.3
COLUMN	7	102	57	47	48	20	52	333	426	78.2
TOTAL	2.1	30.7	17.1	14.1	14.4	6.0	15.6	100.0		

CHI SQUARE = 23.05962 WITH 12 DEGREES OF FREEDOM SIGNIFICANCE = 0.0272*

*Significant at .05 level

COUNT = Number
ROW PCT = Percentage (School)
COL PCT = Percentage of Sample in Category
TOT PCT = Percentage of Total Sample

c. Proportionately more students from Jasper Place and W. P. Wagner than Victoria were planning on attending the Northern Alberta Institute of Technology or taking apprenticeship training after completion of the Trades and Services program.

5. Reasons for Enrollment in the Trades and Services Program

On the Student Questionnaire, students were requested to indicate the main reason for their enrollment in the Trades and Services program.

A highly significant Chi-square was obtained ($p = .0005$; Table 6).

The following differences in the three populations were noted:

1. Although the largest number of students enrolled in the Trades and Services program indicated this was because of a recommendation from their last school, this was found to be significantly less often the case for Victoria students than for students from Jasper Place and W. P. Wagner.

2. Significantly a greater proportion of students from the composite high schools gave more than one reason for enrolling in the program than did students from the vocational high school.

3. The second most popular response, "The vocational program was good," was selected significantly less

Table 6

Chi-Square Distribution of Reasons for Student Enrollment in the Trades and Services Program

COUNT / ROW PCT / COL PCT / TOT PCT	No Response	Recommended By Last School	Parents	Friends Enrolling	Brother or Sister Attended	Heard Vocational Programs Were Good	Only School Offering Vocation Wanted	Other	More Than One Response	ROW TOTAL	Possible N	% Response
Jasper Place	0	19	1	0	0	14	6	1	8	49	59	83.1
	0.0	38.8	2.0	0.0	0.0	28.6	12.2	2.0	16.3	14.7		
	0.0	16.0	8.3	0.0	0.0	17.7	16.2	4.8	19.5			
	0.0	5.7	0.3	0.0	0.0	4.2	1.8	0.3	2.4			
Victoria	1	12	1	4	3	13	8	0	10	52	95	54.7
	1.9	23.1	1.9	7.7	5.8	25.0	15.4	0.0	19.2	15.6		
	20.0	10.1	8.3	100.0	20.0	16.5	21.6	0.0	24.4			
	0.3	3.6	0.3	1.2	0.9	3.9	2.4	0.0	3.0			
W. P. Wagner	4	88	10	0	12	52	23	10	23	232	272	85.3
	1.7	37.9	4.3	0.0	5.2	22.4	9.9	8.6	9.9	69.7		
	80.0	73.9	83.3	0.0	80.0	65.8	62.2	95.2	56.1			
	1.2	26.4	3.0	0.0	3.6	15.6	6.9	6.0	6.9			
COLUMN	5	119	12	4	15	79	37	21	41	333	426	78.2
TOTAL	1.5	35.7	3.6	1.2	4.5	23.7	11.1	6.3	12.3	100.0		

CHI SQUARE = 41.25322 WITH 16 DEGREES OF FREEDOM SIGNIFICANCE = 0.0005**

**Significant at .01 level

COUNT = Number
ROW PCT = Percentage (School)
COL PCT = Percentage of Sample in Category
TOT PCT = Percentage (Total Sample)

often by students from the vocational school than by students from the composite high school settings.

Summary of Differences in Characteristics of Students From the Three Schools Offering Trades and Services

The guidelines and method used for selecting students for the Trades and Services program in the three school settings (Jasper Place, Victoria, and W. P. Wagner) is similar, yet there were some significant differences found regarding characteristics of students enrolled in the three schools offering the program.

The following is a summary of characteristics of second year Trades and Services students, as determined by this study:

1. Students enrolled in the vocational high school setting (W. P. Wagner) scored significantly lower in the Lorge Thorndike Intelligence Test (Verbal) than did students enrolled in the composite high school settings (Jasper Place and Victoria). Both groups made similar scores on the Lorge Thorndike Intelligence Test (Non-Verbal).

2. Although mothers of students enrolled in the Trades and Services program at all three schools were distributed similarly with regard to occupation, there was a significant difference found in the distribution of fathers' occupations. Jasper Place students had proportionately more fathers who were in the "Proprietors,

Managers, and Officials" category; W. P. Wagner had proportionately more fathers who were in the "Skilled" category; and Victoria students had proportionately more fathers who were in the "Unskilled" category than did students from the other two schools.

3. Proportionately fewer students enrolled in the vocational school setting had part time jobs, and those who did spent less time in part time work, on the average, than did students from the composite high school settings.

4. Nearly one-half of the students attending the Trades and Services program in composite high school settings indicated plans to complete grade twelve, significantly more proportionately than those attending the Trades and Services program in the vocational high school setting. Students in the vocational high school setting indicated that they planned to take employment immediately after completing the Trades and Services program proportionately in greater number than did students in the composite high school settings.

5. Reasons for enrollment in the Trades and Services program were most often given as being due to a recommendation from the student's previous school. Students indicated minor involvement by family and friends in this decision.

The differences in characteristics of students enrolled in the Trades and Services program in different

schools, noted above, will have to be considered in the interpretation of results obtained through this study.

Achievement

Differences in level of achievement of students in the sample were examined by comparing student scores on the following instruments:

1. Mathematics Inventory
2. STEP Reading Test
3. STEP Vocabulary Test

1. Mathematics

No significant t-ratio was obtained on scores on the Mathematics Inventory. Therefore the null hypotheses was corroborated (Appendix I; Table C).

The analysis of student scores on the Mathematics Inventory indicated no significant difference between scores of students enrolled in the vocational or composite high school settings.

2. Reading

A significant t-ratio for performance in reading was obtained ($p = .009$; Table 7). Thus the null hypothesis was rejected.

It was found that second year Trades and Services students enrolled in the vocational high school achieved significantly higher average scores on the STEP Reading

Table 7

Analysis of Results of
Second Year Trades and Services Students
on STEP Reading Test

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Percentile Rank*	Standard Deviation
Jasper Place	47	59	79.7	26.76	38.2	7.72
	47	59	79.7	26.76	38.2	7.72
Victoria	56	95	58.9	24.32	31.0	8.88
W. P. Wagner	247	272	90.8	28.14	42.4	8.41
Total	350	426	82.2	27.35	40.0	8.49

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.3772, $p \leq 0.223$

(d) Pooled Variance Estimate

	Standard Error	t Value	D.F.	p
Contrast 1	0.98	-2.63	347.0	0.009**
Contrast 2	1.66	1.47	347.0	0.142

*Percentile rank compared to Grade Eight students (Fall testing) (STEP Booklet of Individual Norms Tables, 1979, p. 7).
**Significant at .01 level.

Test than did students in the same program enrolled in the composite high schools.

3. Vocabulary

No significant t-ratio was obtained on scores on the STEP Vocabulary Test (Appendix I; Table D). Thus the null hypothesis was corroborated.

It was found that scores on the vocabulary test were not significantly different between students attending the composite and vocational high school settings.

Summary of Student Achievement

On the instruments used to determine student achievement, the only significant difference between the two sample groups was in reading, where students enrolled in the vocational high school scored significantly higher. No significant differences were found between the two groups on the vocabulary or mathematics tests.

Self-Concept

Differences in self-concept of students in the sample were examined by comparing student scores on the following instruments:

1. Student's Perception of Ability Scale
2. Piers Harris Self-Concept Scale (The Way I Feel About Myself.

1. Ability Self-Concept

No significant t-ratio on scores on the Student's Perception of Ability Scale was obtained (Appendix I; Table E). Therefore, the null hypothesis was corroborated.

It was found that scores on this instrument were not significantly different between students enrolled in the composite and vocational high school settings.

2. General Self-Concept

No significant t-ratio was obtained on scores on the Piers Harris Self-Concept Scale (Appendix I; Table F). Therefore the null hypothesis was corroborated.

No significant differences were found between scores of students attending the Trades and Services program in the two types of settings.

Summary of Student Scores on Self-Concept Scales

On two questionnaires used to measure self-concept, no significant differences were found between scores obtained by second year Trades and Services students in the composite or vocational high school settings.

Student Attitudes Toward School

On the Student Questionnaire, students were asked to respond to a number of items to determine their attitudes toward school.

The following summarize results obtained.

1. "I have at least two close friends in this school."

There was no significant t-ratio obtained on this item (Appendix I; Table G). Thus the null hypothesis was corroborated. Responses of students in the types of settings were found to be similar.

2. "Other students sometimes call me names or make fun of me at school."

No significant t-ratio was obtained on this item (Appendix I; Table H). Thus the null hypothesis was corroborated. Responses of students in the two types of settings were found to be similar.

3. "I look forward to going to school nearly every day."

No significant t-ratio was obtained on this item (Appendix I; Table I). Thus the null hypothesis was corroborated. Responses of students in the two types of settings were found to be similar.

4. "When I take on a job, I know I will be able to do it well."

No significant t-ratio was obtained for this item (Appendix I; Table J). The null hypothesis was corroborated. Responses of students from the two types of settings were found to be similar.

5. This item required students to indicate the category of school staff they would turn to if they had a problem. A Chi-square distribution was determined and found to be

highly significant (p = .0001; Table 8).

Proportionately more students in the vocational high school setting indicated that they would more readily turn to counselors for assistance, while proportionately more students in the composite high school settings indicated that they would turn to teachers for help.

Summary of Student Attitudes Toward Schools

In examining student attitudes toward school, the only significant finding between the two groups was that students enrolled in the vocational high school more frequently indicated turning to counselors for assistance, while students at composite high schools indicated they would more likely turn to teachers for help with problems. For other items used to determine student attitudes toward school, no significant differences between the two groups were found.

Parental Attitudes Toward the Trades and Services Program

In order to examine parental attitudes toward the Trades and Services program, parents were requested to complete a Parent Questionnaire.

The following is a summary of the results obtained.

1. "My son or daughter is happy in the Trades and Services program."

Table 8

Chi-Square Analysis of Item 18 (Student Questionnaire)--
Category of Staff Students Would Turn to if They had a Problem

COUNT ROW PCT COL PCT TOT PCT	No Response	Teacher	Counselor	Administrator	Support Staff	More Than One Response	TOTAL	Possible N	% Response
Jasper Place	11 22.4 16.7 3.3	23 46.9 21.7 6.9	9 18.4 7.6 2.7	3 6.1 10.7 0.9	0 0.0 0.0 0.0	3 6.1 37.5 0.9	49 14.7	59	83.1
Victoria	7 13.5 10.6 2.1	27 51.9 25.5 8.1	10 19.2 8.5 3.0	7 13.5 25.0 2.1	0 0.0 0.0 0.0	1 1.9 12.5 0.3	52 15.6	95	54.7
W. P. Wagner	48 20.7 72.7 14.4	56 24.1 52.8 16.8	99 42.7 83.9 29.7	18 7.8 64.3 5.4	7 3.0 100.0 2.1	4 1.7 50.0 1.2	232 69.7	272	85.3
COLUMN	66	106	118	28	7	8	333		
TOTAL	19.8	31.8	35.4	8.4	2.1	2.4	100.0		

CHI SQUARE = 35.41649 WITH 10 DEGREES OF FREEDOM SIGNIFICANCE = 0.0001**

**Significant at .01 level

COUNT = Number
ROW PCT = Percentage (School)
COL PCT = Percentage of Sample in Category
TOT PCT = Percentage (Total Sample)

A significant t-ratio was obtained ($p = .028$; Table 9). Thus the null hypothesis was rejected. It was found that parents of students attending the Trades and Services program in the vocational school setting responded significantly more positively to this item than did parents of students attending the same program in composite high school settings.

2. "Most of the academic work in the Trades and Services program is too difficult for my son or daughter."

No significant t-ratio was obtained for this item (Appendix I; Table K). The null hypothesis was corroborated. Responses of parents of students from the two types of settings were not different on this item.

3. "I feel the school is helping my son or daughter prepare for what he or she wants to do after graduation."

No significant t-ratio was obtained for this item (Appendix I; Table L). The null hypothesis was corroborated. Responses of parents of students from the two samples were found to be similar.

4. "I feel my son or daughter is receiving a good education in the Trades and Services program."

A significant t-ratio was obtained for this item ($p = .002$; Table 10). Thus the null hypothesis was rejected. Parents of students attending the vocational school responded significantly more positively to this item than did parents of students attending the composite high schools.

Table 9

Analysis of Results of
Item 1 (Parent Questionnaire)
"My son or daughter is happy in the
Trades and Services program."

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	36	59	61.0	1.19	0.46
Victoria	42	95	44.2	1.19	0.55
W. P. Wagner	163	272	59.9	1.06	0.26
Total	241	426	56.6	1.10	0.35

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.4697, $p \leq 0.002$

(d) Separate Variance Estimate

	Standard Error	t Value	D.F.	p
Contrast 1	0.05	2.22	97.6	0.028*
Contrast 2	0.11	0.03	75.5	0.971

*Significant at .05 level

Table 10

Analysis of Results of
Item 16 (Parent Questionnaire)
"I feel my son or daughter is receiving a good education in the Trades and Services Program."

(a) Means and Standard Deviations

Group	N	Possible N	Percent Response	Mean	Deviation
Jasper Place	35	59	59.3	1.37	0.68
Vicotria	41	95	43.2	1.39	0.70
W. P. Wagner	162	272	59.6	1.11	0.49
Total	238	426	55.9	1.20	0.49

(b) Contrast Coefficients Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.4547, $p \leq 0.007$

(d) Separate Variance Estimate

	Standard Error	t Value	D.F.	p
Contrast 1	0.08	3.12	89.2	0.002**
Contrast 2	0.16	-0.11	72.5	0.907

**Significant at .01 level

5. "I have no difficulty in getting my son or daughter to attend school regularly."

A significant t-ratio was determined on this item ($p = .012$; Table 11). Thus the null hypothesis was rejected. Parents of students attending the vocational school responded significantly more positively on this item than did parents of students attending the composite high schools.

Summary of Parental Attitudes Towards the Trades and Services Program

In examining parental attitudes toward the Trades and Services program, significant differences between the two groups of parents were found on items 1, 16, and 17. Parents of Trades and Services students enrolled in the vocational high school setting gave significantly more positive responses to items dealing with the perceived happiness of students in the program, perception of a good education being received by the son or daughter and ease with which parents were able to get their son or daughter to attend school regularly, than did parents of Trades and Services students enrolled in composite high school settings.

For other items used to determine parental attitudes toward the Trades and Services program, no significant results were obtained.

Table 11

Analysis of Results of
Item 17 (Parent Questionnaire)
"I have no difficulty in getting my son or daughter to attend school regularly."

(a) Means and Standard Deviations

School	N	Possible N.	Percent Response	Mean	Standard Deviation
Jasper Place	37	59	62.7	1.37	0.72
Victoria	42	95	44.2	1.59	0.82
W. P. Wagner	162	272	59.6	1.23	0.58
Total	241	426	56.6	1.31	0.66

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.4432, $p \leq 0.014$

(d) Separate Variance Estimate

	Standard Error	t Value	D.F.	p
Contrast 1	0.09	2.56	121.3	0.012*
Contrast 2	0.17	-1.24	77.0	0.217

*Significant at .05 level

Preferred Setting

In order to determine what students and parents believe to be the preferred setting for the Trades and Services program, an item to obtain this information was included on both the Parent and Student Questionnaires.

1. Student Preference

A highly significant t-ratio ($p < .0001$) was determined on this item (Table 12). Thus the null hypothesis was rejected. Not surprisingly, students strongly felt that the preferred type of setting for the Trades and Services program was in the type of setting in which they were enrolled.

2. Parental Preference

As with the student sample, a highly significant t-ratio was determined ($p < .0001$; Table 13). Thus the null hypothesis was rejected. Like the students, parents strongly felt that the preferred type of setting for the Trades and Services program was the same type of setting in which their children were now enrolled.

Table 12

Analysis of Results of
Item 28 (Student Questionnaire)
"I feel that Trades and Services should be offered in a special vocational school rather than in a composite high school."

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	49	59	83.1	2.32	0.85
Victoria	52	95	54.7	2.07	0.83
W. P. Wagner	232	272	85.3	1.84	0.82
Total	333	426	78.2	1.94	0.85

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.3429, $p \leq 0.782$

(d) Pooled Variance Estimate

	Standard Error	t Value	D.F.	p
Contrast 1	0.09	3.63	330.0	0.000**
Contrast 2	0.16	1.50	330.0	0.134

**Significant at .001 level

Table 13

Analysis of Results of
Item 14 (Parent Questionnaire)
"I feel that Trades and Services should be offered in a special vocational school rather than in a composite high school."

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	37	59	62.7	2.56	0.76
Victoria	40	95	42.1	2.60	0.74
W. P. Wagner	160	272	58.8	2.09	0.88
Total	237	426	55.6	2.25	0.87

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.4055, $p \leq 0.104$

(d) Pooled Variance Estimate

	Standard Error	t Value	D.F.	p
Contrast 1	0.11	4.18	234.0	0.000**
Contrast 2	0.19	-0.16	234.0	0.866

**Significant at .001 level

Summary of Findings

An analysis of findings obtained through this study leads to the following conclusions:

1. There were found to be significantly more similarities between second year Trades and Services students attending the two composite high school settings than between those attending the vocational and composite high school settings.

2. Students attending the Trades and Services program in the three settings were found to exhibit some basic differences. Significant differences among student groups attending the three schools were found in the following areas: occupation of father, reasons for enrollment in Trades and Services; future educational or vocational plans. Significant differences between Trades and Services students from the vocational and combined composite high school settings were found on the following variables: scores on Lorge Thorndike Intelligence Test (Verbal); and incidence and amount of part time student employment.

3. A significant difference in achievement on the STEP Reading Test was found between Trades and Services students enrolled in the vocational and composite high school settings. Students enrolled in the vocational high school scored significantly higher on this test than did students enrolled in the composite high schools. No

significant difference was found on the STEP Vocabulary Test or the Mathematics Inventory.

4. No significant difference was found between the two groups on student responses to general self-concept or perception of ability scales.

5. School counselors were perceived to be significantly more important to students attending the vocational high school (W. P. Wagner) as compared to student attending the composite high school settings (Jasper Place and Victoria). Otherwise, students attending the two types of settings expressed similar attitudes toward school.

6. Parents of students attending the vocational high school were significantly more positive about the Trades and Services program and the school their children attended than were parents of students attending the composite high school settings.

7. Trades and Services students from both the vocational and composite high school settings, as well as their parents, showed a strong loyalty to the schools offering the Trades and Services program, specifically to the type of setting in which the student was enrolled.

Implications and a further discussion of the results of this study have been presented in Chapter V--Discussion.

CHAPTER V

DISCUSSION

Summary

It is important for those responsible for providing the most efficacious arrangement for program delivery to know whether students are better served when educated in more integrated or more segregated settings. This is especially true in the case of adolescent students who have exhibited a history of academic failure and frustration. For such students, an early entry into the employment market is anticipated, making their last school experiences particularly important.

Educational philosophies and practices are continually changing, reflecting economic, social, and political changes apart from the educational system itself. During the 1950's and 1960's, a time of rapidly increasing student enrollments and expanding educational programs, the provision of segregated programs for students with special educational needs was the accepted procedure. Now, with just as rapidly declining student enrollments, a strong movement exists to educationally integrate such students.

In 1968, Dunn suggested:

> We should try keeping slow learning children in the mainstream of education, with special educators servicing as diagnostic, clinical,

> remedial, resource room, itinerant and/or team teachers, consultants, and developers of instructional materials and prescriptions for effective teaching. (p. 11)

Further to this issue, in 1972, Melcher stated that teachers' attitudes toward school placement of students requiring special educational services were dissimilar to those held by educators in positions outside the classroom. He indicated:

> During the past ten years, many leaders in the special education movement have enunciated the need for greater "normalization" in the education of the handicapped pupil, while many generic elementary and secondary school educators have advocated the special class or segregated approach to serving children with special needs. (p. 547)

There was found to be no consistency in the literature regarding the most appropriate form of program delivery for serving students with special educational needs. No definitive answer was found to the question of whether students with learning difficulties were more effectively served in segregated or more integrated school settings. This research was designed to address this issue and to provide further information related to the relative merits of segregated and semi-integrated program delivery models for high school aged vocational students. More specifically, the purpose of this study was to determine the relative effectiveness of two organizational models for the delivery of a high school program designed for students, who, without benefit of special intervention, would be expected to drop out of school before program

completion or high school graduation, or before acquiring vocation skills. This program entitled Trades and Services, is presently offered by the Edmonton Public School Board in a self-contained vocational high school accommodating only students enrolled in Trades and Services, as well as in two composite high schools serving a wide range of students in a variety of programs including Trades and Services. The sample for this study consisted of all second year Trades and Services students attending both types of settings.

For purposes of comparison, students comprising this sample were administered a battery of instruments to measure general and ability self-concept; level of achievement in mathematics, reading, and vocabulary; and attitude toward school. Parent Questionnaires were utilized to obtain information regarding the attitude of parents toward the Trades and Services program. Standardized test scores of verbal and nonverbal intelligence of students in the population were obtained from the schools involved.

Summary of Student Characteristics

It was assumed that Trades and Services students attending the three schools offering the program were similar. This assumption was made on the basis of the following:

1. Identical criteria were utilized for entrance to the program offered in the three school settings.

2. A similar proportion of students in each of the three settings had been previously enrolled in special education and regular classes.

3. For each of the three school settings, the geographical areas from which students were drawn was comprised of a wide range of socio-economic residential neighborhoods.

An analysis of data obtained through this study showed that students enrolled in the second year of the Trades and Services program in the three schools exhibited significant differences in a number of characteristics. A summary and a discussion of these differences follows.

1. Verbal Intelligence. Significantly lower scores on the Canadian Lorge Thorndike Intelligence Test (Verbal) were found from the student sample enrolled in the vocational high school (W. P. Wagner), as compared to the composite high school sample (Jasper Place and Victoria).

It is proposed that probable reasons for this finding are related to one or a combination of the folllowing:

a. Students attending the program at different schools may fit within the guidelines for the program, yet exhibit some different characteristics including differing intellectual levels. This is consistent with

the finding that regular class students enrolled in the same grades and programs in different parts of Edmonton exhibited differing intellectual and achievement levels (Mosychuk, 1979).

b. As the self-contained vocational high school is the oldest and largest Trades and Services setting, and is therefore most widely known, a larger percentage of the more seriously educationally distressed students may tend to request placement in that setting.

c. Students with most severe educational disabilities may proportionately more frequently wish to receive their education in the more sheltered setting provided by a self-contained vocational high school.

d. As the sample for this study consisted of second year Trades and Services students, it might have been that students who entered the first year of the program in the three settings were comparable, but that drop-outs resulted in an uneven student distribution by the end of the second year of the program.

2, Occupational Category of Father. Occupational categories of fathers of second year students enrolled in the three schools offering the Trades and Services program were found to be significantly different when compared on the Pineo Porter Scale of Occupational Prestige. On this instrument, categories indicate level of occupational prestige rather than socio-economic level, although the two are frequently related (Jampolsky, 1972).

Occupational categories of fathers cited most often in this study were: Jasper Place Composite High School--Proprietors, Managers and Officials (Small); Victoria Composite High School--Semi-skilled; W. P. Wagner Vocational High School--Skilled.

It is proposed that these differences may be due to a combination of the following factors:

a. Notwithstanding the fact that for each school, the geographic area from which students were drawn consisted of a range of residential areas, the main catchment area of each of the three schools is somewhat different, as is that of other high schools in Edmonton. Students attending Jasper Place Composite High School generally reside in the west end of Edmonton, an area with a high percentage of upper middle class dwellings. Victoria Composite High Schools students more often reside in the central part of Edmonton, where a greater than average percentage of the population is transient. Residential areas closest to the W. P. Wagner Vocational High School tend to be a middle class cross-section.

b. A student need not attend the program closest to the student's residence if space is available in the setting of first choice. Parents from certain occupational categories may, for a variety of reasons, request placement of their children in a composite high school or vocational high school setting as a first preference, notwithstanding

the location of that program.

c. The Pineo Porter Scale gives a range of occupational prestige scores by occupational class or by individual scores for each occupation. As the student responses were frequently very general, it was found to be more reliable to score the occupations by categories than by individual scores. A wide range of occupational prestige scores are included in each category, and scores cross over categories. For example, the category, "Proprietors, Managers and Officials (Small)" includes member of City Council and lunchroom operator; "Clerical and Sales" includes flight attendant and stockroom attendant; "Skilled" includes airplane mechanic and saw sharpener; and "Unskilled" includes mailman and garbage collector. For this reason, some fathers in the "Skilled", "Semi-skilled", or "Clerical and Sales" categories have higher occupational prestige than some fathers in the categories of "Semi-professional" or "Proprietors, Managers, and Officials (Small)".

3. Part-Time Employment. Results obtained from this study indicated that second year Trades and Services students enrolled in the vocational high school held proportionately fewer part-time jobs, and those who did have part-time work, spent proportionately less time on this employment than did second year Trades and Services students enrolled in the composite high schools.

Possible reasons for this finding are:

a. Students attending the vocational high school may spend more time in travel to and from school, and therefore have less time for after school employment.

b. Students attending the vocational high school may be more highly involved in extra-curricular activites than students attending the composite high schools.

4. Future Plans. Proportionately, significantly more students enrolled in the vocational high school indicated plans for permanent employment immediately after completion of the Trades and Services program than was the case with students enrolled in the composite high schools.

Possible reasons for this are one or a combination of the following:

a. Students attending the composite high schools can complete requirements for high school graduation at the same schools they attend for the Trades and Services program while students attending the vocational high school must transfer to a composite high school in order to complete requirements for high school graduation. This fact may deter less motivated students in the vocational high school from changing schools to complete requirements for high school graduation, while students already enrolled in the composite high schools find it more convenient to complete requirements for high school graduation.

b. Students enrolled in the vocational high school may feel that the end of their schooling is completion of the Trades and Services program, while in a composite high school setting, the end of schooling may be seen to be high school graduation.

c. In this study was found that proportionately more students with lower verbal ability attended the vocational high school setting. Fewer of these students may have the ability or inclination to complete the requirements for high school graduation.

Findings

A summary of significant findings obtained through this research are presented, along with some discussion of the findings.

1. Reading Achievement. A significant higher average score on the STEP Reading Test was made by second year Trades and Services students enrolled in the vocational high school (W. P. Wagner), as compared to those enrolled in the composite high schools (Jasper Place and Victoria).

Level of verbal intelligence is widely accepted as having a direct positive relationship with academic achievement (Mosychuk, 1979). In light of the significantly lower Lorge-Thorndike Verbal Intelligence scores made by students attending the vocational high

school, significantly higher average STEP Reading scores made by students from this school was a particularly important finding.

It is proposed that reasons for these results relate to one or a combination of the following:

a. The procedures used to teach reading at the vocational high school may be particularly effective.

b. More emphasis may be placed on the teaching or remediation of basic reading skills at the vocational high school than in the composite high school settings.

c. The self-contained school setting may be significantly more effective for remediating or teaching students with similar academic needs.

2. Category of Staff to Whom Students Turn for Assistance. When asked what category of staff memeber students would turn to for assistance if they were experiencing difficulties, Trades and Services students in the vocational high school setting significantly more often responded "counselor", while Trades and Services students in the composite school settings significantly more often responded "classroom teacher".

These results may be due to one or a combination of the following:

a. The total school expectation regarding the role of counselors and that of teachers may be defined and communicated differently to students in the vocational

school setting where all students have experienced educational difficulties and composite high school settings where the needs of students are more heterogeneous.

b. The counseling program in the vocational school setting may be particularly strong and effective, and thus well accepted by students.

c. In the larger composite high school settings, Trades and Services students probably feel closer to staff clearly identified with "their program" (Trades and Services) and may be more hesitant about approaching staff in departments which provide services to the total school population.

3. Preferred Setting for the Trades and Services Program. Results of this study showed that Trades and Services students enrolled in the vocational high school, as well as parents of these students, proprtionately significantly more frequently indicated that the Trades and Services program should be provided in a self-contained vocational high school setting. Students enrolled in the Trades and Services program in composite high schools, as well as their parents, proportionately significantly more frequently indicated that the Trades and Services program should be provided in a composite high school setting.

These results were not surprising, for the following reasons.:

a. It has been found in the past, generally the organizational structure of an institution preferred is the same as that with which the respondent is most familiar (Mack, 1976).

b. Persons benefiting from a certain service delivery model do not wish to lose a mode of service in which they feel comfortable.

c. There may be a fear that a recommendation for change in organizational structure of a special type of service may result in a removal of the service, rather than merely a change in administrative structure of the service.

4. Parental Attitudes Toward Trades and Services. On three of the five Parent Questionnaire items used to determine parental attitudes toward the program, parents of students attending the Trades and Services program in the vocational school gave significantly more positive responses than did parents of students attending the program in the composite high school settings. Items on which these differences were found were: "My son or daughter is happy in the Trades and Services program", and "I have no difficulty in getting my son or daughter to attend school regularly".

It is proposed by the author that reasons for the differing responses from parents of the two samples are related to the following factors:

a. Composite schools provide programs to a wide range of students, thus responsibilities taken by staff often relate to students in a broad variety of programs. Staff responsibilities are not related only to the number of students enrolled in a school, but also to the number of specialized programs and services provided on behalf of students. It may be that schools such as the vocational high school, which offer only one or a small number of different programs may be more readily able to provide students and parents with a greater degree of specialized and individual attention than those schools offering a wide variety of programs.

b. Some parents believe that a self-contained vocational school setting is the most specialized and appropriate one for students requiring the Trades and Services program, and may thus react more positively regarding the program in such a setting.

c. The smaller size of the vocational high school as compared to the composite high school settings may have been a factor in the parents' greater confidence in the vocational high school.

d. There may be some empirical differences in attitudes of students enrolled in the vocational and composite high school settings. This was not, however determined from student responses to questionnaires and assessment scales used in this research.

5. Variables Where No Differences were Found. Significant differences were found between the vocational and composite high school sample on a number of variables, however, results of this study indicated an even larger number of variables examined where no differences were found. Variables which yielded similar results were mathematics achievement, vocabulary achievement, general self-concept, ability self-concept, student attitude as indicated by responses to four items analyzed from the Student Questionnaire, and parent attitudes as indicated by responses to two items on the Parent Questionnaire.

It might be argued that differences found between students attending the vocational and composite high schools might be due to reasons other than the organization of the Trades and Services program. However, the only significant difference found between students attending the two composite high school settings was occupational category of father, which indicated some differences among all three school groups.

On variables where significant differences were found between students enrolled in the vocational and composite high school settings, no significant differences were found between the populations enrolled in the two composite high school settings. This fact led the author to conclude that the organization of the program did have an effect on the program and its results on students.

Conclusions

The following conclusions can be drawn from the results of this study:

1. From the generally positive reaction to the Trades and Services program given by parents and students attending both the self-contained vocational and the composite high schools, it would appear that the program is generally well accepted by students enrolled in both types of settings. In light of the generally poor academic prognosis of this population, the fact that they have remained in school to this point is, in itself, a tribute to all three schools.

2. Parental interest in the Trades and Services program and the study was shown by the total Parent Questionnaire return rate of 57% (Jasper Place--63%; Victoria 44%; W. P. Wagner--63%). According to Travers (1970), this was an acceptable rate of return. Verbal advice from school staff members indicated a generally very low response to and return of school related forms by parents of Trades and Services students.

Parents of students attending both types of settings indicated support for the program but parents of students attending the vocational high school were significantly more positive about the Trades and Services program.

3. Much controversy surrounds the question of the most appropriate degree of segregation or integration of

students requiring a variety of special educational resources (Bowman & Matthews, 1960; Jackson & Taylor, 1973; Quinlan, 1964). The results of this study led to the conclusion that the self-concept of Trades and Services students attending the self-contained vocational and composite high school settings is similar, as is mathematics and vocabulary achievement, and student attitude toward the Trades and Services program. These results were consistent with the literature which indicated a close relationship between academic performance and self-concept (Fredman, 1976; Seay, 1960; Zeitz, 1975). They were not in keeping with strong proponents of mainstreaming who stated that pupils are less happy and achieve less in more segregated schools or classrooms (Jackson & Taylor, 1973). The results were consistent with the views of Nash and McQuistan (1975) who indicated that they could find no significant differences between the social and academic development of students in a segregated and in a semi-integrated setting.

4. Parents of Trades and Services students enrolled in the self-contained vocational school expressed greater confidence in the Trades and Services program and the school setting compared to parents of Trades and Services students attending the composite high school settings. Parents indicated that they felt that students were receiving a better education and were happier in the vocational school setting.

5. Notwithstanding the fact that criteria for selection of students to the three Trades and Services settings are identical, students enrolled in the three settings were found to have significant differences in level of verbal intelligence and occupational prestige level of father.

6. The results of this study showed a significantly higher level of reading achievement by Trades and Services students enrolled in the vocational and composite high school setting. In light of this higher reading achievement demonstrated by students in the self-contained vocational school, a higher self-concept of these students may have been expected (Bloom, 1976; Prendergast & Binder, 1975). The actual results were more in line with the view of Brookover, Erickson and Joiner (1967) who disclaimed such a relationship.

The fact that students in a self-contained vocational high school exhibited greater reading achievement and were as happy and confident as similar students attending composite high school settings is in conflict with the proponents of educational mainstreaming (Dunn, 1968; Lilly, 1970; Jackson & Taylor, 1973). The results of this study were more in keeping with the views of Adamson and Van Etten, 1972; Gickling and Theobald, 1975; and Smith and Arkans, 1974; who suggested a number of different approaches including special classes and schools should be utilized to serve students with special educational needs.

7. The role of the school counselor was seen differently by Trades and Services students enrolled in the vocational and composite high school settings. More specifically, school counselors were perceived as significantly more useful to students attending the vocational school setting.

Recommendations

The following recommendations are proposed as a result of the findings resulting from this research:

1. That the Trades and Services program should be extended in the vocational high school to allow the possibility of high school graduation to students enrolled in the program at the school. These students should not be required to enroll in another high school in order to complete requirements for graduation from high school. The possibility for graduation should be noncompulsory but available to students who wish to take advantage of this alternative.

2. That the reasons for the positive results relating to reading achievement, the counseling program, and parent confidence in the Trades and Services program at the vocational high school should be further examined. Factors leading to these positive results might be generalized to other schools offering this same program, as well as to other schools and programs.

3. That the present method of student allocation to schools offering the Trades and Services program be continued; both geography and student choice should be considered. Students indicating a preference for either a separate vocational or composite high school setting for the Trades and Services program should be allowed to enroll in the type of setting of first choice whenever possible.

Implications

The following implications were drawn from the results of this study:

1. For a variety of reasons, a currently popular educational approach is the integration of special programs with students with learning handicaps and difficulties of all types into "regular" school settings to as great an extent as possible. Under this philosophy, and the Cascade Model (Barron, 1979); The Alberta Special Education Study, 1977), there is virtually no rationale for a separate, self-contained school setting for a program such as Trades and Services (The Alberta Special Education Study, 1977). Such a delivery mode wouuld be seen as unnecessarily restrictive and segregated for students in the program. The results of this study showed, however, that in Edmonton at this time, the delivery model of a segregated vocational high

school setting for the Trades and Services program is perceived significantly more positively by parents, and as positively by students, as is the provision of this same program in a composite high school setting. These results point to the fact that educators and educational policy makers must be careful in generalizing educational trends from one setting, nation, or geographic or social milieu, to another. Local geography, traditions, and community expectation must also be strongly considered in the setting of educational directions. A practice considered educationally sound and acceptable in one area may not be universally appropriate or desirable. This is in keeping with the views expressed on this subject by Stainbeck and Stainbeck (1975).

2. The results of this study indicated that Trades and Services students enrolled in the self-contained vocational setting (W. P. Wagner Vocational High School) scored significantly higher in reading achievement than Trades and Services students enrolled in Jasper Place Composite High School and Victoria Composite High School. Parents of students attending the segregated program significantly more often felt their children were receiving a better education and were happier in the program than did parents of students attending the composite high school settings. This is at variance with the literature wnich states that students with minor

educational handicaps served in as integrated a setting as possible achieve more both academically and socially than when segregated from regular classes (Dunn, 1969; The Alberta Special Education Study, 1977; Weininger, 1973).

3. Results coming from this study showed no differences between Trades and Services students attending the vocational and composite high school settings on vocabulary and mathematics achievement, self-concept (general and ability), and student attitudes toward school and program. These findings did not support the literature which indicated that students attending a more integrated school setting would feel more positively about their prospects in school and exhibit a higher self-concept than would students attending a segregated program (Adamson & Van Etten, 1972; Kirk, 1964; Lilly, 1971).

4. Findings from this study substantiated the belief that most students and parents tend to adapt to the type of educational organization under which they are served (Mack, 1976; Quinlan, 1964). Although most of the students comprising the sample for this study enrolled in either the vocational or composite high school setting on the basis of the geographical location of their residences, most students and parents were most highly supportive of the form of organizational structure under which the students were served.

5. The findings from this study suggest that alternative organizational patterns are appropriate and even desirable for different students requiring similar educational programs. This supports the approach described by the Cascade System (Deno, 1970) which is based upon a continuum that includes a variety of services and organizational structures. The results from this study agree with the findings of Carvajal (1972) who indicated that physical setting, whether integrated or segregated does not affect the development of self-concept. As well, Nash and McQuistan (1975) could find no statistical evidence to justify one type of setting over another.

6. A high percentage of parents who returned questionnaires requested that a summary of the findings of the study be sent to them. This fact coupled with a higher rate of questionnaire return from parents than was expected on the basis of feedback from school staff would indicate parental interest in and concern with the Trades and Services program in this area.

7. The findings of this study suggest that the setting or organizational model does have some definite influence on an educational program. It was found that the results of the segregated program were in no case less positive but in some cases more positive than the results of the more integrated program.

Features of Study

1. As far as the author was able to ascertain, this study, which examined students attending a vocational program in both vocational and composite high school settings, is the first of its kind.

2. This is the first in-depth study of any facet of the segregation or integration of special programs within the Edmonton Public School System.

3. A broad range of variables were assessed in this study--achievement, self-concept, and self-report data.

4. Students and parents were involved in this study. Frequently these two groups are neglected in studies of program organization.

5. School personnel were involved in the development of the study.

Implications for Further Research

1. A study of the variables researched in this study, conducted on a variety of populations requiring special educational intervention, done on a pre-test, post-test model would provide information which would be useful to compare with results of studies presented in the current literature.

2. Characteristics of student drop-outs from vocational programs should be studied to determine the

factors which prevent students from continuing in such programs.

3. Trades and Services students should be compared to students enrolled in other high school programs, on a number of intellectual, personality, achievement, and social variables, in order to determine which characteristics are instrumental in the classification of students as educational "successes" or "failures."

4. A follow-up study of students who have been successful in graduating from the Trades and Services program should be made in order to determine whether this program is accomplishing its avowed purpose of preparing students for independence and successful employment upon completion of the program.

5. A follow-up of students who had been enrolled in the Trades and Services program, but who drop out of the program before graduation should be made, in order to determine the degree of success these young people achieve in the work force, and how the school system can be of more assistance to this group.

6. As the literature contains very little information relating to segregated schools for a variety of student populations, this type of organizational pattern should be researched with regard to its appropriateness for students having various characteristics.

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APPENDIX A

TRADES AND SERVICES PROGRAM 1978-79

TRADES AND SERVICES PROGRAM - 1978-79

I General Information

1. The Trades and Services program is intended to accommodate students who are vocationally oriented and who experience limited success in the core subjects in their present program. Generally such students should have had the opportunity to spend one year in grade nine.

   For the 1978-79 school term this program will be offered at Jasper Place Composite, Victoria Composite and W. P. Wagner Vocational High Schools.

2. Comparison of Trades and Services Programs in the Three Locations

   Academic upgrading and vocational orientation courses, and the level of performance expected of students are similar in all three locations.

   However, some differences in program and climate may be identified.

	Vocational High School (W. P. Wagner)	Composite High Schools (Jasper Place, Victoria)
a)	Serves only Trades and Services students	Regular high school setting serving students in a variety of programs - matriculation, technical, business and vocational. Trades and Services students are a minority
b)	Total school enrollment approximately 1100	Total school enrollment 1700 or more
c)	Integration into regular high school program requires transfer after Year I, Year II, Year III	If warranted, opportunity for integration into regular high school program after participation in the Year I, without a transfer from the school
d)	Choice among 15 vocational areas in Year I	Year I program at Jasper Place is predetermined. Victoria offers choice among 13 vocational areas in Year I
e)	South-east location - school bus transportation essential for most students	Victoria is centrally located. Jasper Place accessible by public transit to west Edmonton residents.

II Eligibility

1. Age: a) Candidates for Year I should be at least fifteen years of age as of September 1, 1978.

   b) Younger students will be considered on an individual basis.

2. Residence:

   Preference will be given to those students who reside in the city of Edmonton. As in the past years, a number of spaces will be held to accommodate non-resident students eligible for registration in the Trades and Services program. Once a non-resident student has been accepted in the Trades and Services program, the Edmonton Public School Board makes a commitment to provide a continuing Trades and Services program to the student throughout the three years of the program.

3. Academic Background:

   Students can qualify on the basis of (i) and/or (ii)

   (i) Current placement in a Pre-Vocational program.

   (ii) a) I.Q. 75 - 95 on group or individual tests. Although Bureau of Child Study assessment of applicants is not required, referral should be initiated in marginal or special cases.

   and

   b) A history of below average performance with average achievement at Christmas below 40% in core subjects. Most of these students will have been enrolled in differentiated language arts and/or mathematics.

4. Educational/Vocational Interests and Plans:

   a) The Trades and Services program is designed for students desiring general education and vocational preparation beyond the junior high school level and who require remediation prior to embarking upon senior high school programs.

   b) A specific effort should be made to interest prospective students who, despite poor academic performance, show practical interest and aptitude in industrial arts, home economics, handicrafts, hobbies or part-time jobs.

.../3

5. Commitment to the Trades and Services Program:

a) Each junior high school principal and counselor shall ensure that prospective students and their parents have a full understanding of the nature and implications of the Trades and Services program offered in each of the three locations.

b) All applications will be supported by the signature of parent(s) or guardian.

III Registration

1. Students are to be identified and recommended for the Trades and Services program by the principal of the sending school. Orientation and documentation for applicants will be the responsibility of the principal of the sending school. Personnel from Trades and Services schools will assist with orientation and interpretation as required.

2. For registration purposes, junior high schools have been designated as "feeder schools" to the senior high school offering the Trades and Services program for that geographical zone of the city (see pages 5, 6). Junior high school principals will identify students for Trades and Services placement to the Trades and Services centre serving their geographical zone.

3. Any concerns by a Trades and Services school regarding the suitability of a candidate referred to the Trades and Services program shall be appealed to the Director Pupil Assessment at the time of registration.

4. The deadline date for resident student applications to Trades and Services in all centres is April 1. Each junior high school principal will forward a copy of every completed student application for the Trades and Services program by April 1 to the Director School Operations.

5. Notwithstanding the geographical area in which the student resides, a student may, with parental consent, elect to request attendance at another Trades and Services centre. The student shall indicate the school of first choice on the Trades and Services application form.

a) Such application forms will first be forwarded by the junior high school principal to the zone Trades and Services centre.

b) When all applications have been received, administrators of the Trades and Services programs will meet with the Associate Superintendent Operations before May 1 to determine which of the "boundary crossing" requests can be accommodated.

c) If there is insufficient room at the desired location, the student will be accommodated at the Trades and Services centre for the zone in which the student resides.

.../4

6. Students may enroll in the Trades and Services program at times other than June. Arrangements should be made between the student's last school and the appropriate Trades and Services school. Students are most easily accommodated at the time of rotation through vocational exploration courses. Students new to the Edmonton Public School system who have attended a program comparable to the Trades and Services program in another jurisdiction should make application directly to the Trades and Services centre closest to their residence.

7. A number of applicants from outside of Edmonton will be accommodated in the Trades and Services program after May 30. Applications by non-resident students to the Trades and Services program should be sent to the Director School Operations by May 15.

HJM/am
February 20, 1978

EDMONTON PUBLIC SCHOOL BOARD TRADES AND SERVICES PROGRAMS - YEAR I

FEEDER SCHOOLS	TRADES AND SERVICES LOCATION	PROGRAM FEATURES	EXPECTED REGISTRATION
Britannia Crestwood Hillcrest Laurier Heights Parkview Stratford Westlawn Westminster (including Pre-Voc)	Jasper Place Composite 8950 - 163 Street T5R 2P2 Tel.: 484-5581	**Academic Upgrading** Human Relations IC English IC Reading IC Mathematics IC Science IC **Vocational Exploration** Rotate through - (A) Beauty Culture IC Business Education IC Commercial Communication IC (additional aspects of Bus.Ed.) Food Preparation IC Graphics IC Home Technology IC Sewing IC OR (B) Business Ed. IC Carpentry IC Food Preparation IC General Metals IC: Machine Shop, Pipe Trades, Sheet Metal, Welding. Graphic IC Small Engines IC	From Pre-Voc III - 45 Other Sources - 75 TOTAL: 120 (Will register to 144)
Dickinsfield H. A. Gray (including Pre-Voc) Killarney McCauley McDougall Oliver Parkdale Rosslyn Sherbrooke Spruce Avenue Wellington Westmount	Victoria Composite High School 10210 - 108 Ave. T5H 1A8 Tel.: 426-3010	**Academic Upgrading** English Communications I Human Relations I Mathematics I Phys. Ed. I Science I **Vocational Exploration** Choice of six (12 weeks rotation) Appliance Servicing I Arts and Crafts I Building Construction I Business Education I Clothing & Textiles I Commercial Communication I Drafting I Food Preparation I Graphic Arts I Machine Shop I Personal Development I Small Engine I Welding I	From Pre-Voc III - 35 Other Sources - 109 TOTAL: 144 (Will register 165)
Allendale Avalon Avonmore Balwin Donnan D. S. MacKenzie Eastwood Edith Rogers Fulton Place Garneau Grandview Heights Hardisty Highlands (including Pre-Voc) Kenilworth King Edward Lawton Londonderry McKay Avenue McKernan Ottewell Ritchie Riverbend Steele Heights Strathearn Vernon Barford	W. P. Wagner High School 6310 Wagner Road T6E 4N5 Tel.: 469-1315	**Academic Upgrading** Human Relations/ Communication Mathematics Ecology (half-year) a) Wildlife & Hunter Training or b) Science (Natural Studies) One Elective (half-year) Choice of: Typing, Art, Phys.Ed., Music, Drama, Sewing **Vocational Exploration** Choice of six (6 weeks rotation) Auto Parts Beauty Culture Building Construction Building Maintenance Business Education Commercial Vehicle Operation (Driver Education) Drafting Food Preparation Fine Arts: (Art, Drama, Music) Horticulture Industrial Metals Institutional Services & Home Management Painting & Decorating Photog. & Lithog. Sewing	From Pre-Voc III - 190 Other Sources - 240 TOTAL: 430 (Will register 455)

TRADES AND SERVICES YEAR II

W. P. Wagner

English 13
Mathematics 15
Science
Electives -
- Arts 10
- Drama 10
- Music 11
- Typing 10
- Phys. Ed. 10
- Lapidary 10

Vocational -
- Auto Parts Merchandising 15
- Automotives 15
- Service Stn. Operation Management 15
- Painting & Decorating 15
- Building Construction 15
- Carpentry 15
- Building Maintenance 12
- Machine Shop 12
- Piping 12
- Sheet Metal 12
- Welding 15
- Drafting 12
- Drafting 22A
- Drafting 22B
- Building Construction 15
- Typing 10
- Recordkeeping 10
- Visual Comm. 12
- Business Foundations
- Beauty Culture 12
- Beauty Culture 22A, 22B, 22C
- Horticulture 12
- Horticulture 22A, 22B, 22C
- Fashion & Fabrics 12
- Health Services 12
- Health Services 22
- Modern Living 10
- Commercial Art 15
- Visual Communications 12
- Graphic Arts 22A, 22C
- Food Preparation 12
- Food Science 10
- Health Services 12
- Health & Personal Develop.10
- Photography 15

Victoria Composite

Students register in 35-40 credits at the grade 10 level

English 13
Mathematics 15
Science 11
Phys. Ed. 10X

and in addition 4 x 5 credits in vocational courses.

Appliance Servicing 12
Automotives 15
Beauty Culture 12
Building Construction 15
Drafting 12
Food Preparation 12
Graphic Arts 12
Machine Shop 12
Modern Living 10

Plus Business Education courses that are offered in the regular program -
Accounting 10
Business Foundations 10
Business Procedures 10
Data Processing 10
Law 10
Marketing 10
Recordkeeping 10
Shorthand 10
Typewriting 10

Plus Home Economics courses that are offered in the regular program -
Clothing and Textiles 10
Food Services 10

Jasper Place Composite

English 18
Human Relations 18
Mathematics 18
Science 18
Phys. Ed. 10

All students will choose 4 of the following subjects -

Art 10
Automotives 12
Beauty Culture 12
Business Foundations
Recordkeeping 18
Carpentry 18
Drafting 12
Fashions & Fabrics 12
Food Preparation 12
General Technology 10
Graphics 12
Sheet Metal 12
Typing 18
Welding 12

TRADES AND SERVICES YEAR III

W. P. Warner

English 23
Math. 15 or Math. 25
One Vocational Area
One 5-credit elective or Two 3-credit electives.
Electives -
- Social Studies 10
- Arts 10, 20
- Drama 10, 20
- Music 11, 21
- Typing 10, 20
- Phys. Ed. 10, 20
- Science 11
- Business Machines 22

Vocational -
- Automotives 25
- Business Foundations
- Auto Parts, Merchandising
- Service Stn. Operation & Management
- Building Construction
- Drafting 32A, B, & C
- Carpentry
- Painting & Decorating
- Building Maintenance
- Sheet Metal 22A, B, & C
- Piping 22A, B, & C
- Welding 25
- Machine Shop 22A, B, & C
- Commercial Art 25
- Graphic Arts 22A
- Horticulture 32A, B, & C
- Beauty Culture 32C & D.

Victoria Composite

Students register in 35-40 credits at the grade 11 level.

English 23
Social Studies 13
Option

and 20 credits of vocational courses.

Automotives 25
Drafting 22
Food Preparation 22
Modern Living 20
Appliance Servicing 22
Graphic Arts 22
Beauty Culture 22
Building Construction 22
Machine Shop 22
Welding 22

Plus Business Education courses that are offered in the regular program:

Accounting 10/20
Business Machines 22
Business Procedures 20
Data Processing 20
Law 20
Marketing 20
Shorthand 20F
Typewriting 20

Plus Home Economic courses that are offered in the regular program:

Clothing and Textiles 20
Food Services 20

Jasper Place Composite

English 23
Geography 20
Sociology 20

All students will choose 1 of the following vocational subjects -

Automotives 22
Beauty Culture 22
Building Construction 22
Business Machines 22
Law 20
Marketing 28
Shorthand 21
Typing 20
Business Procedures 20
Commercial Art 22
Food Preparation 22
Graphic Arts 22
Machine Shop 122
Piping 122
Sheet Metal 22
Welding 22

TO WHOM IT MAY CONCERN

Pages 149 - 161 (Appendix B)

162 - 166 (Appendix C)

193 - 197 (Appendix H)

have been omitted from Heleen McLeod's thesis "Trades and and services Students in Vocational and Composite High School Settings" for copyright reasons.

Step Reading Test and Step Vocabulary Test

May be obtained from:

Educational Testing Service
Addison-Wesley Publishing Company
Don Mills, Ontario

APPENDIX D

MATHEMATICS INVENTORY

MATHEMATICS INVENTORY

DO NOT WRITE ON THIS BOOKLET

DO ALL QUESTIONS, THERE IS NO PENALTY FOR ERRORS.

DO ANY CALCULATIONS NECESSARY ON YOUR OWN PAPER. CHOOSE THE BEST ANSWER FOR EACH QUESTION AND MARK YOUR CHOICE ON THE SEPARATE ANSWER SHEET. USE AN HB PENCIL ONLY. ERASE ANY ERRORS VERY CAREFULLY.

1. $\begin{array}{r} 406 \\ +230 \\ \hline \end{array}$

a. 236
b. 600
c. 636
d. 646
e. 736

2. $\begin{array}{r} 2370 \\ -1890 \\ \hline \end{array}$

a. 480
b. 840
c. 1480
d. 1580
e. 4800

3. $\begin{array}{r} 406 \\ \times \quad 7 \\ \hline \end{array}$

a. 2802
b. 2836
c. 2842
d. 2912
e. 28042

4. $5\overline{)535}$

a. 17
b. 101
c. 107
d. 170
e. None

5. $\begin{array}{r} 3/4 \\ +1/8 \\ \hline \end{array}$

a. 3/12
b. 4/12
c. 4/8
d. 7/8
e. None

6. $\begin{array}{r} 9 \\ -5\ 1/3 \\ \hline \end{array}$

a. 3 1/3
b. 3 2/3
c. 4 1/3
d. 4 2/3
e. 14 1/3

7. 3/4 x 1/4

a. 4/8
b. 3/16
c. 4/16
d. 2 2/3
e. 3

8. 3/4 ÷ 1/4

a. 3/16
b. 1/3
c. 1/2
d. 3
e. None

9. .04 + .143 + .3706

a. .3853
b. .4536
c. .5436
d. .5536
e. None

10. 43.4 - 3.15

a. .119
b. 1.19
c. 11.9
d. 40.25
e. None

11.
$$\begin{array}{r} 32.3 \\ \times .035 \\ \hline \end{array}$$

a. .11305
b. 1.1305
c. 11.305
d. 113.05
e. 1130.5

12. $.03\overline{)\,.504}$

a. .057
b. 1.68
c. 16.8
d. 168
e. None

(4)

13. TWO MILLION TWO HUNDRED THOUSAND TWO IS:

a. 20,202
b. 200,202
c. 2,000,202
d. 2,200,002
e. None

14. FIVE EIGHTHS IS:

a. 5-8
b. 8/5
c. .58
d. 5.8
e. None

15. THREE HUNDREDTHS IS:

a. 1/300
b. .03
c. .3
d. 300
e. None

16. 1/4 =

a. 4/10
b. .14
c. 4/16
d. .41
e. None

17. WHICH IS THE LARGEST NUMBER?

a. 3/4
b. 2/3
c. 8/9
d. 1/20
e. 5/8

18. CHANGE 3/8 TO A DECIMAL:

a. .375
b. .38
c. 3.8
d. 37.5
e. 375.

19. WHICH IS THE LARGEST NUMBER?

a. .0255
b. .099
c. .7
d. .015
e. .0099

20. EIGHTY-FIVE PERCENT IS:

a. .85%
b. 85¢
c. 85%
d. 85°
e. None

21. 4/5 =

a. .45%
b. 45%
c. .8%
d. 8%
e. 80%

22. 3% =

a. .03
b. .3
c. 3
d. 30
e. 300

23. 10% of 60 is:

a. 600
b. 50
c. 6
d. 1/6
e. None

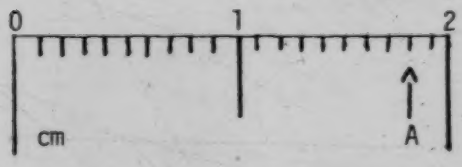
24. 16 IS WHAT PERCENT OF 40?

a. 16/40
a. 40
c. 250
d. 640
e. None

25. IF $\frac{W}{4} = \frac{84}{28}$ THEN W =

a. 7
b. 12
c. 14
d. 24
e. None

26. THE DISTANCE TO (A) IN CENTIMETRES IS:



a. 18
b. .8
c. 1.8
d. 13
e. 25

27. SUBTRACT 12600 METRES FROM 20 KILOMETRES.

a. 12400 metres
b. 12580 metres
c. 12620 metres
d. 7400 metres
e. None

28. WHAT IS THE AVERAGE OF 9,18,27,36,45 and 54?

a. 31 1/2
b. 27
c. 189
d. 6
e. None

29. IN WHICH NUMBER DOES 3 REPRESENT THE LEAST VALUE?

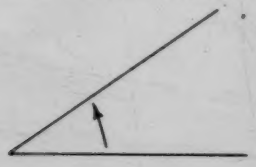
a. 30,001
b. 19,300
c. 31,099
d. 70,739
e. Same

30. A PUPIL ROUNDED 7,328 TO 7,300. HE ROUNDED TO THE NEAREST:

a. 10
b. 30
c. 100
d. 1000
e. Unknown

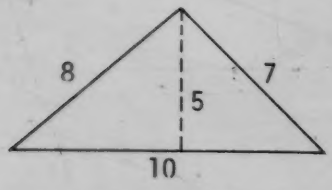
(7)

31. THIS ANGLE IS APPROXIMATELY HOW MANY DEGREES?



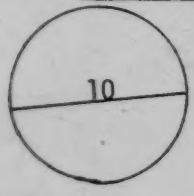
a. 3.14
b. 45
c. 90
d. 180
e. 300

32. FIND THE <u>PERIMETER</u>:



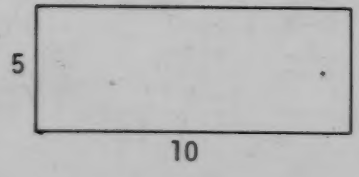
a. 25
b. 30
c. 50
d. 2800
e. None

33. FIND THE <u>CIRCUMFERENCE</u>:



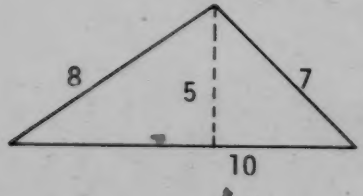
a. 3.14
b. 10
c. 20
d. 31.4
e. 78.50

34. FIND THE <u>AREA</u>:



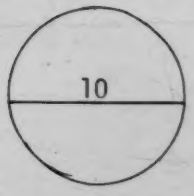
a. 15
b. 25
c. 30
d. 50
e. None

35. FIND THE <u>AREA</u>:



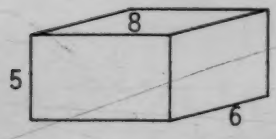
a. 25
b. 50
c. 560
d. 2800
e. None

36. FIND THE AREA:



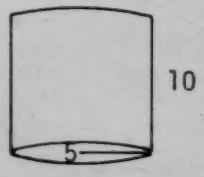
a. 3.14
b. 31.4
c. 78.5
d. 314
e. None

37. FIND THE VOLUME:



a. 19
b. 30
c. 40
d. 48
e. 240

38. FIND THE VOLUME:



a. 3.14
b. 50
c. 250
d. 785
e. None

39. FIND THE SURFACE AREA OF THE WALLS OF A ROOM 20 x 30 BY 8 HIGH.

a. 58
b. 60
c. 800
d. 4800
e. None

40. THE NUMBER OF CENTIMETRES IN 1 METRE IS:

a. .10
b. 100
c. 1000
d. 36
e. 12

41. THE NUMBER OF SQUARE CENTIMETRES IN 1 SQUARE METRE IS?

a. 100
b. 10
c. 10000
d. 1000
e. 3

42. THE NUMBER OF CUBIC CENTIMETRES IN 1 CUBIC METRE IS?

a. 1
b. 1000
c. 100
d. 1000000
e. 10000

43. IN CHANGING METRES TO CENTIMETRES YOU WOULD:

a. +
b. -
c. x
d. ÷
e. Depends

44. IF YOU BORROWED $100.00 FOR 1/2 A YEAR AT 6% INTEREST WOULD YOU OWE?

a. $3.00
b. $6.00
c. $300.00
d. $600.00
e. None

45. A FAMILY TOOK A VACATION IN THEIR CAR, IT LASTED ABOUT 2 WEEKS, THEY USED 150 GALLONS OF GASOLINE ON THE TRIP. TO FIND THE DISTANCE THEY TRAVELED, ON THE AVERAGE PER GALLON, YOU NEED TO KNOW:

a. the cost of gasoline per gallon
b. the average speed of driving
c. the number of hours travelled per day
d. the total number of miles they traveled
e. all of these

46. $\sqrt{36}$ =

a. 6
b. 13
c. 18
d. 169
e. None

47. 4^3 =

a. 7
b. 12
c. 64
d. 81
e. 256

48. 5 x = 45
x =

a. 5
b. 7
c. 9
d. 225
e. None

49. IF 56 ÷ N = 14

N =

a. 1/4
b. 4
c. 24
d. 728
e. None

50. IF r = 5, s = 6, t = 4, FIND THE VALUE OF x IF x = r + s - t

a. 7
b. 10
c. 11
d. 15
e. None

APPENDIX E

STUDENT QUESTIONNAIRE

TRADES AND SERVICES PROGRAM SCHOOL _____

STUDENT QUESTIONNAIRE

In order that we can offer the best possible Trades and Services Programs at W. P. Wagner Vocational, Victoria Composite and Jasper Place Composite High Schools, we need some information about our students and their feelings about school. It would help us if you would answer the following questions as honestly as you can. You do not need to sign the questionnaire.

PART A

For each of the following statements please circle the number that best indicates how you feel.

		Agree	Uncertain	Disagree
1.	School is dull and boring.	1	2	3
2.	I find teachers explain work clearly enough for me to understand	1	2	3
3.	I like to ask questions in class.	1	2	3
4.	The best part of school is the "break".	1	2	3
5.	There should be no academic subjects taught in a vocational high school program.	1	2	3
6.	I get along very well with at least two of my teachers.	1	2	3
7.	The rules in this school are too strict.	1	2	3
8.	Students should make the rules in school.	1	2	3
9.	Most teachers in this school care about me.	1	2	3
10.	I have at least two close friends in this school.	1	2	3
11.	I sometimes skip certain classes.	1	2	3
12.	I would rather watch television than read a book.	1	2	3

		Agree	Uncertain	Disagree
13.	I sometimes get into trouble because I talk of "fool around" in class.	1	2	3
14.	There are at least three adults I know I can turn to in this school if I have a problem.	1	2	3
15.	Most of the academic work expected of me in this school is too difficult for me.	1	2	3
16.	The work in the vocational classes is too difficult for me.	1	2	3
17.	I always get to class on time.	1	2	3
18.	This school is helping me to prepare for what I want to do when I graduate.	1	2	3
19.	Most of the students at this school behave in a mature, responsible manner.	1	2	3
20.	Other students have taken money or personal belongings from me in school.	1	2	3
21.	I am sometimes hassled by other students.	1	2	3
22.	I find the yellow school buses a satisfactory way of coming to school	1	2	3
23.	Most of the students behave reasonably on the bus.	1	2	3
24.	Other students sometimes try to start fights with me in school.	1	2	3
25.	Other students sometimes call me names or make fun of me at school.	1	2	3
26.	I look forward to going to school nearly every day.	1	2	3
27.	When I take on a job, I know I will be able to do it well.	1	2	3
28.	I feel that Trades and Services should be offered in a special vocational school rather than in a composite high school.	1	2	3

PART B

For each of the following please give the answer that describes you.

1. What is your sex? 1. male 2. female

2. What is your age _____

3. Which adults do you live with? _____

4. What is the occupation of your mother (or guardian) _____

5. What is the occupation of your father (or guardian) _____

6. Do you or your family receive any financial assistance other than family allowance from any agency?

yes no

7. How many schools did you attend from grade one before coming to this school?

1 2 3 4 5 more than 5

8. Which school did you attend last year? (Name the school)

_____

9. What vocational area did you plan to follow when you first entered the Trades and Services Program?

_____

10. What vocational area do you plan to follow when you leave school?

_____

11. SELECT ONLY ONE ANSWER

Do you intend to

a. Complete grade 12 _____
b. Apprentice in your chosen vocational area _____
c. Attend NAIT _____
d. Seek employment _____
e. Other (explain) _____ _____

12. SELECT ONLY ONE ANSWER

Why did you decide to enroll in the Trades and Services Program at this school?

a. The school you attended last recommended it _____
b. Your parents felt you should come here _____
c. Your friends were enrolling at this school _____
d. Your brother or sister attended here _____
e. You heard the vocational programs were good _____
f. It was the only school offering the vocation you wanted _____
g. Other (explain) _____ _____

13. What is your favorite subject of all those you are taking this year?

_____

14. Which academic subject is your weakest?

a. reading _____
b. mathematics _____
c. science _____

15. Do you hold a part time job this year?

(a) yes (b) no

16. How many hours per week do you work at your part time job?

(a) less than 10 (b) 10-20 (c) more than 20

17. Have you ever held a full-time job for more than three months?

(a) yes (b) no

18. If you have a problem and want to talk to someone in this school, which of the following would you feel most comfortable turning to?

1. one of your teachers _____
2. one of the counselors _____
3. an administrator (principal or assistant principal) _____
4. support staff (caretaker, secretary, technician, kitchen staff etc.) _____

19. What I like most about my school is:

_____

20. What I would like to change in my school is:

_____

APPENDIX F

PARENT QUESTIONNAIRE

TRADES AND SERVICES PROGRAM

PARENT QUESTIONNAIRE

CODE NO. _____

In order that we can offer the best possible Trades and Services Programs at W. P. Wagner Vocational, Victoria Composite and Jasper Place Composite High Schools, we need some information from parents regarding their feelings about the program. It would help us if you would answer the following questionnaire as honestly as you can.

You do not need to sign the questionnaire. The completed questionnaire should be returned as soon as possible to Mrs. H. J. McLeod
5104 - 125 Street
Edmonton, Alberta
T6H 3V5

For your convenience, an addressed, stamped envelope is enclosed.

PART A

For each of the following statements, please circle the number that best shows how you feel.

		Agree	Uncertain	Disagree
1.	My son or daughter is happy in the Trades and Services Program.	1	2	3
2.	There should be no academic subjects taught in a vocational high school program.	1	2	3
3.	The rules in my son's or daughter's school (T & S Program) are too strict.	1	2	3
4.	Students should make the rules in school.	1	2	3
5.	My son or daughter (T & S) has at least two close friends in school.	1	2	3
6.	There are at least three adults my son or daughter can turn to in the school if he or she has a problem.	1	2	3
7.	Most of the academic work in the T & S Program is too difficult for my son or daughter.	1	2	3
8.	The work in the vocational classes in the T & S Program is too difficult for my son or daughter.	1	2	3
9.	I feel the school is helping my son or daughter prepare for what he or she wants to do after graduation.	1	2	3
10.	Most of the students at my son or daughter's school behave in a mature, responsible manner.	1	2	3

	Agree	Uncertain	Disagree
11. Other students have taken money or personal belongings from my son or daughter in school.	1	2	3
12. My son or daughter is sometimes hassled by other students.	1	2	3
13. My son or daughter finds the yellow school bus a satisfactory way of coming to school.	1	2	3
14. I feel that Trades and Services should be offered in a special vocational school rather than in a composite high school.	1	2	3
15. My son or daughter sometimes is called names or teased by other students.	1	2	3
16. I feel my son or daughter is receiving a good education in the Trades and Services Program.	1	2	3
17. I have no difficulty in getting my son or daughter to attend school regularly.	1	2	3

PART B

18. What do you like most about the school your son or daughter attends (T & S Program)?

19. What would you like to see changed at the school your son or daughter attends?

Heleen J. McLeod
5104 - 125 Street
Edmonton, Alberta
T6H 2V5

April 27, 1979

Dear Parent or Guardian:

As you are probably aware, the Trades and Services Program has been offered at Jasper Place Composite, Victoria Composite, and W. P. Wagner Vocational High Schools for a number of years. In order to make this important program even better for students, a study is being conducted to get opinions from parents and students involved in the Trades and Services Program.

As you may already know, second year Trades and Services students have participated in this study by completing questionnaires at their schools.

We would like to have your opinion about the Trades and Services program. It would be appreciated if you would complete the attached questionnaire and return it in the enclosed stamped, addressed envolope as soon as possibe before June 1, 1979. If you have further comments on the Trades and Services Program, feel free to include them when you return your questionnaire. You do not need to sign your name to the questionnaire.

If you would be interested in receiving a summary of the results of this study, please complete and return the sheet enclosed for this purpose to me. I will provide you with such information as soon as possible after August 31, 1979.

Thank you very much for your help. If you have any questions or concerns, please call Heleen McLeod at 427-0309 or 436-4771.

Sincerely,

Heleen J. McLeod

Heleen J. McLeod
Assistant Superintendent
Edmonton Public Schools
(on secondment to Alberta Education)

/ss

APPENDIX G

PIERS-HARRIS CHILDREN'S SELF-CONCEPT SCALE

THE WAY I FEEL ABOUT MYSELF

NAME . . . . . .

AGE . . . . . .

SCHOOL . . . . . .

DATE . . . . . .

Here are a set of statements. Some of them are true of you and so you will circle the yes. Some are not true of you and so you will circle the no. Answer every question even if some are hard to decide, but do not circle both yes and no. Remember, circle the yes if the statement is generally like you, or circle the no if the statement is generally not like you. There are no right or wrong answers. Only you can tell us how you feel about yourself, so we hope you will mark the way you really feel inside.

1. My classmates make fun of me . . . . . yes no
2. I am a happy person . . . . . yes no
3. It is hard for me to make friends . . . . . yes no
4. I am often sad . . . . . yes no
5. I am smart . . . . . yes no
6. I am shy . . . . . yes no
7. I get nervous when the teacher calls on me . . . . . yes no
8. My looks bother me . . . . . yes no
9. When I grow up, I will be an important person . . . . . yes no
10. I get worried when we have tests in school . . . . . yes no
11. I am unpopular . . . . . yes no
12. I am well behaved in school . . . . . yes no
13. It is usually my fault when something goes wrong . . . . . yes no
14. I cause trouble to my family . . . . . yes no
15. I am strong . . . . . yes no
16. I have good ideas . . . . . yes no
17. I am an important member of my family . . . . . yes no
18. I usually want my own way . . . . . yes no
19. I am good at making things with my hands . . . . . yes no
20. I give up easily . . . . . yes no

21. I am good in my school work . . . . . yes no
22. I do many bad things . . . . . yes no
23. I can draw well. . . . . yes no
24. I am good in music . . . . . yes no
25. I behave badly at home . . . . . yes no
26. I am slow in finishing my school work . . . . . yes no
27. I am an important member of my class . . . . . yes no
28. I am nervous . . . . . yes no
29. I have pretty eyes . . . . . yes no
30. I can give a good report in front of the class . . . . . yes no
31. In school I am a dreamer . . . . . yes no
32. I pick on my brother(s) and sister(s) . . . . . yes no
33. My friends like my ideas . . . . . yes no
34. I often get into trouble . . . . . yes no
35. I am obedient at home . . . . . yes no
36. I am lucky . . . . . yes no
37. I worry a lot . . . . . yes no
38. My parents expect too much of me . . . . . yes no
39. I like being the way I am . . . . . yes no
40. I feel left out of things . . . . . yes no

41. I have nice hair . . . . . yes no
42. I often volunteer in school . . . . . yes no
43. I wish I were different . . . . . yes no
44. I sleep well at night . . . . . yes no
45. I hate school . . . . . yes no
46. I am among the last to be chosen for games . . . . . yes no
47. I am sick a lot . . . . . yes no
48. I am often mean to other people . . . . . yes no
49. My classmates in school think I have good ideas . . . . . yes no
50. I am unhappy . . . . . yes no
51. I have many friends . . . . . yes no
52. I am cheerful . . . . . yes no
53. I am dumb about most things . . . . . yes no
54. I am good looking . . . . . yes no
55. I have lots of pep . . . . . yes no
56. I get into a lot of fights . . . . . yes no
57. I am popular with boys . . . . . yes no
58. People pick on me . . . . . yes no
59. My family is disappointed in me . . . . . yes no
60. I have a pleasant face . . . . . yes no

61. When I try to make something, everything seems to go wrong . . . yes no
62. I am picked on at home . . . . . yes no
63. I am a leader in games and sports . . . . . yes no
64. I am clumsy . . . . . yes no
65. In games and sports, I watch instead of play . . . . . yes no
66. I forget what I learn . . . . . yes no
67. I am easy to get along with . . . . . yes no
68. I lose my temper easily . . . . . yes no
69. I am popular with girls . . . . . yes no
70. I am a good reader . . . . . yes no
71. I would rather work alone than with a group . . . . . yes no
72. I like my brother (sister) . . . . . yes no
73. I have a good figure . . . . . yes no
74. I am often afraid . . . . . yes no
75. I am always dropping or breaking things . . . . . yes no
76. I can be trusted . . . . . yes no
77. I am different from other people . . . . . yes no
78. I think bad thoughts . . . . . yes no
79. I cry easily . . . . . yes no
80. I am a good person . . . . . yes no

APPENDIX I

TABLES

NONSIGNIFICANT RESULTS

Table A

Analysis of Results of
Second Year Trades and Services Students
on Lorge Thorndike Intelligence Test--Non-Verbal

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	47	59	79.7	86.44	12.05
Victoria	52	95	54.7	85.75	9.81
W. P. Wagner	185	272	68.0	82.74	10.33
Total	284	426	66.7	83.90	10.63

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.4204, $p \leq 0.033$

(d) Separate Variance Estimate

	Standard Error	T Value	D.F.	p (T Prob)
Contrast 1	2.68	0.35	172.3	0.722
Contrast 2	2.78	-0.48	88.3	0.632

Table B

Chi-Square Distribtuion on Pineo Porter Scale of Occupational Class--
Mothers of Second Year Trades and Services Students Attending Jasper Place, Victoria, and W. P. Wagner High Schools

COUNT ROW PCT COL PCT TOT PCT	Professional	Semi Professional	Proprietors, Managers & Officials (Small)	Clerical Sales	Skilled	Semi Skilled	Unskilled	Farmer	Housewife	Other	ROW TOTAL	Possible N	% Response
Jasper Place	0 0.0 0.0 0.0	1 2.7 4.5 0.4	2 5.4 22.2 0.8	9 24.3 12.0 3.5	0 0.0 0.0 0.0	1 2.7 5.9 0.4	4 10.8 17.4 1.6	0 0.0 0.0 0.0	19 51.4 20.2 7.4	1 2.7 100.0 0.4	37 14.5	59	62.7
Victoria	2 5.6 33.3 0.8	1 2.8 4.5 0.4	1 2.8 11.1 0.4	7 19.4 9.3 2.7	2 5.6 25.0 0.8	3 8.3 17.6 1.2	2 5.6 8.7 0.8	0 0.0 0.0 0.0	18 50.0 19.1 7.0	0 0.0 0.0 0.0	36 14.1	95	37.9
W. P. Wagner	4 2.2 66.7 1.6	20 10.9 90.9 7.8	6 3.3 66.7 2.3	59 32.2 78.7 23.0	6 3.3 75.0 2.3	13 7.1 76.5 5.1	17 9.3 73.9 6.6	1 0.5 100.0 0.4	57 31.1 60.6 22.3	0 0.0 0.0 0.0	183 71.5	272	67.3
COLUMN	6	22	9	75	8	17	23	1	94	1	256	426	60.1
TOTAL	2.3	8.6	3.5	29.3	3.1	6.6	9.0	0.4	36.7	0.4	100.0		

CHI SQUARE = 24.35876 WITH 18 DEGREES OF FREEDOM SIGNIFICANCE = 0.1436

COUNT = Number
ROW PCT = Percentage (School)
COL PCT = Percentage of Sample in Category
TOT PCT = Percentage (Total Sample)

Table C

Analysis of Results of
Second Year Trades and Services Students
on Mathematics Inventory

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	51	59	86.4	26.01	7.14
Victoria	57	95	60.0	24.66	7.82
W. P. Wagner	240	272	88.2	27.07	8.32
Total	348	426	81.7	26.52	8.10

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.3816, $p \leq 0.183$

(d) Pooled Variance Estimate

	Standard Error	T Value	D.F.	p (T Prob)
Contrast 1	0.93	-1.84	345.0	0.066
Contrast 2	1.55	0.86	345.0	0.386

Table D

Analysis of Results of
Second Year Trades and Services Students
on STEP Vocabulary Test

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	47	59	79.7	18.59	5.98
Victoria	56	95	58.9	18.25	6.93
W. P. Wagner	242	272	89.0	18.10	5.88
Total	345	426	81.0	18.19	6.06

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.4061, $p \leq 0.048$

(d) Separate Variance Estimates

	Standard Error	T Value	D.F.	p (T Prob)
Contrast 1	0.74	0.42	175.5	0.671
Contrast 2	1.27	0.27	100.9	0.787

Table E

Analysis of Results of
Second Year Trades and Services Students
on Student's Perception of Ability Scale

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	47	59	79.7	36.06	10.76
Victoria	55	95	57.9	37.83	11.45
W. P. Wagner	222	272	81.6	36.99	11.66
Total	324	426	76.1	37.00	11.48

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.3551, $p \leq 0.551$

(d) Pooled Variance Estimate

	Standard Error	T Value	D.F.	p (T Prob)
Contrast 1	1.37	-0.03	321.0	0.974
Contrast 2	2.28	-0.77	321.0	0.439

Table F

Analysis of Results of
Second Year Trades and Services Students
on Piers Harris Self-Concept Scale
(The Way I Feel About Myself)

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	44	59	74.6	53.77	13.07
Victoria	45	95	47.4	53.31	12.10
W. P. Wagner	200	272	73.5	55.46	13.85
Total	289	426	67.8	54.86	13.46

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.3767, $p \leq 0.274$

(d) Pooled Variance Estimate

	Standard Error	T. Value	D.F.	p (T Prob)
Contrast 1	1.71	-1.11	286.0	0.265
Contrast 2	2.85	0.16	286.0	0.872

Table G

Analysis of Item 10 (Student Questionnaire)
"I have at least two close friends in this school."

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	49	59	83.1	1.40	0.76
Victoria	52	95	54.7	1.42	0.75
W. P. Wagner	232	272	85.3	1.27	0.62
Total	333	426	78.2	1.31	0.66

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.3781, $p \leq 0.225$

(d) Pooled Variance Estimate

	Standard Error	T Value	D.F.	p (T Prob)
Contrast 1	0.07	1.75	330.0	0.080
Contrast 2	0.13	-0.11	330.0	0.911

Table H

Analysis of Item 25 (Student Questionnaire)
"Other students sometimes call me
names or make fun of me at school."

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	49	59	83.1	2.48	0.79
Victoria	52	95	54.7	2.13	0.84
W. P. Wagner	232	272	85.3	2.46	0.81
Total	333	426	78.2	2.41	0.81

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.3546, $p \leq 0.555$

(d) Pooled Variance Estimate

	Standard Error	T Value	D.F.	p (T Prob)
Contrast 1	0.09	-1.58	330.0	0.115
Contrast 2	0.16	2.19	330.0	0.029

Table I

Analysis of Item 26 (Student Questionnaire)
"I look forward to going to school
nearly every day."

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	49	59	83.1	2.00	0.81
Victoria	52	95	54.7	2.11	0.90
W. P. Wagner	232	272	85.3	1.96	0.82
Total	333	426	78.2	1.99	0.82

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.3796, $p \leq 0.210$

(d) Separate Variance Estimate

	Standard Error	T Value	D.F.	p (T Prob)
Contrast 1	0.10	0.91	178.9	0.361
Contrast 2	0.17	-0.67	98.9	0.501

Table J

Analysis of Item 27 (Student Questionnaire)
"When I take on a job,
I know I will be able to do it well."

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	49	59	83.1	1.22	0.42
Victoria	52	95	54.7	1.46	0.77
W. P. Wagner	232	272	85.3	1.29	0.51
Total	333	426	78.2	1.31	0.55

Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans $C = 0.5797$, $p \leq 0.000$

d) Separate Variance Estimate

	Standard Error	T Value	D.F.	p (T Prob)
Contrast 1	0.07	0.64	129.5	0.518
Contrast 2	0.12	-1.91	79.5	0.059

Table K

Analysis of Results of Item 6 (Parent Questionnaire)
"There are at least three adults my son or daughter can turn to in the school if he or she has a problem."

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	36	59	61.0	1.91	0.84
Victoria	42	95	44.2	1.45	0.70
W. P. Wagner	163	272	59.9	1.52	0.69
Total	241	426	56.6	1.57	0.73

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.4184, $p \leq 0.055$

(d) Pooled Variance Estimate

	Standard Error	T Value	D.F.	p (T Prob)
Contrast 1	0.09	1.57	238.0	0.116
Contrast 2	0.16	2.83	238.0	0.005**

**Significant at .01 level

Table L

Analysis of Item 7 (Parent Questionnaire)
"Most of the academic work in the Trades and Services program is too difficult for my son or daughter."

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	36	59	61.0	2.55	0.73
Victoria	42	95	44.2	2.78	0.56
W. P. Wagner	158	272	58.1	2.81	0.49
Total	236	426	55.4	2.76	0.55

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.4895, $p \leq 0.001$

(d) Separate Variance Estimate

	Standard Error	T Value	D.F.	p (T Prob)
Contrast 1	0.08	-1.64	012.5	0.103
Contrast 2	0.15	-1.53	65.2	0.130

Table M

Analysis of Item 9 (Parent Questionnaire)
"I feel the school is helping my son or daughter prepare for what he or she wants to do after graduation."

(a) Means and Standard Deviations

School	N	Possible N	Percent Response	Mean	Standard Deviation
Jasper Place	36	59	61.0	1.38	0.68
Victoria	42	95	44.2	1.23	0.61
W. P. Wagner	163	272	59.9	1.15	0.45
Total	241	426	56.6	1.20	0.53

(b) Contrast Coefficient Matrix

	Group 1 J.P.	Group 2 Vic.	Group 3 W.P.W.
Contrast 1	0.5	0.5	-1.0
Contrast 2	1.0	-1.0	0.0

(c) Cochrans C = 0.4450, $p \leq 0.013$

(d) Separate Variance Estimate

	Standard Error	T Value	D. F.	p (T Prob)
Contrast 1	0.08	1.86	105.2	0.065
Contrast 2	0.14	1.01	71.1	0.315